NPS Form 10-9003
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United States Department of the Interior
National Park Service

BIA AD 1072

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NATIONAL REGISTER, HISTORY & EDUCATION
NATIONAL PARK SERVICE

National Register of Historic Places Registration Form

1. Name of Property

historic name: Pipe Spring National Monument Historic District (Boundary Increase)

other name/site number: Fort Arizona, Pipe Spring(s) Fort, Pipe Spring(s) Ranch, Winsor Castle, Windsor Castle, Winsor Castle Ranch; HS-1-3; Buildings 50-52 (fort/cabins)

2. Location

street & number: 401 N. Pipe Spring Road **for publication:**

city/town: Fredonia **vicinity:** X

state: Arizona **code:** AZ **county:** Mohave **code:** 015 **zip code:** 86022

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this_ nomination_ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property_ meets__ does not meet the National Register criteria. I recommend that this property be considered significant_X_ nationally__ statewide__ locally. (__See continuation sheet for additional comments.)

Catherine Stevenson
Signature of certifying official/Title

8/7/00
Date

National Park Service
State or Federal agency or bureau

In my opinion, the property X meets _____ does not meet the National Register criteria.

James W. Garrison AZSHPO
Signature of commenting or other official

2 AUG 2000
Date

ARIZONA STATE PARKS
State or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is:

		Signature of the Keeper	Date of Action
X	entered in the National Register		
	see continuation sheet		
	determined eligible for the National Register		
	see continuation sheet		
	determined not eligible for the National Register		
	see continuation sheet		
	removed from the National Register		
	see continuation sheet		
	other (explain)		

Signature of the Keeper: Carol R. Lynn — Date of Action: 9/14/00

5. Classification

wnership of Property: public, Federal

Category of Property: district

Number of contributing resources previously listed in the National Register: 6

Name of related multiple property listing: N/A

Number of Resources within Property		
Contributing	Noncontributing	
3	2	building(s)
2	0	sites
3	4	structures
0	0	objects
8	6	Total

6. Function or Use

Historic Functions:
DEFENSE/fortification; military facility
DOMESTIC/single dwelling
RELIGION/church-related residence
INDUSTRY/communications facility
AGRICULTURE/cattle ranch

Current Function:
RECREATION AND CULTURE/museum, monument/marker

7. Description

Architectural Classification:

her: Vernacular

MATERIALS:
Foundation: sandstone
Walls: sandstone
Roof: wood shingles; juniper logs, earth
Other: (floors) sandstone, wood, earth

Narrative Description: (See continuation pages.)

8. Statement of Significance

Applicable National Register Criteria: A
Criteria Considerations (Exceptions): N/A
Significant Person(s): N/A
Cultural Affiliation: N/A

Areas of Significance: exploration/settlement; communications; social history. Other: women's history
Period(s) of Significance: 1863-1895
Significant Dates: 1863, 1868, 1872, 1885
Architect/Builder: John R. Young and Tamar J. Black Young; Elisha and Elijah Averett

Narrative Statement of Significance

(See continuation pages.)

9. Major Bibliographic References

ee continuation pages.)

Previous documentation on file (NPS):

_ preliminary determination of individual listing (36 CFR 67) has been requested.
_X_ previously listed in the National Register
___ previously determined eligible by the National Register
___ designated a National Historic Landmark
_X_ recorded by Historic American Buildings Survey # AZ-18
___ recorded by Historic American Engineering Record # _____

Primary Location of Additional Data:

___ State Historic Preservation Office
___ Other State agency
_X_ Federal agency - Pipe Spring Nat'l. Monument
___ Local government
___ University
___ Other –

10. Geographical Data

Acreage of Property: approximately 6.5 acres

UTM References:	Zone	Easting	Northing
Pipe Spring quadrangle	12	344950	4080900

Verbal Boundary Description

The boundaries of the historic district are indicated on the accompanying base map.

Boundary Justification

The district boundaries include all known eligible, extant historic resources associated with the property during its period of significance: the fort and associated cabins, retaining walls, ponds, quarry trail, and the Whitmore-McIntyre dugout and lime kiln sites. Although evaluated as noncontributing structures, the reconstructed telegraph line and east cabin corrals are also included as important interpretive features within the district. The old monument road trace marks the district's southern boundary. This road lacks integrity for listing but lends itself as a natural boundary feature to the district. In addition, for many years NPS officials made a deliberate attempt to confine all developments below the old monument road, in order to preserve the historic setting of the fort and cabins. The part of the monument that lies outside the district boundary includes cultivated areas, non-historic corrals, and the NPS housing and maintenance areas.

11. Form Prepared By

name/title: Kathy McKoy, Historian
organization: National Park Service, Intermountain Region, Denver
street & number: 12795 W. Alameda Parkway
city or town: Denver **state:** Colorado
date: July 5, 2000
telephone: 303-969-2878
zip code: 80225-0287

Additional Documentation

Please see continuation pages, current photographs, copies of historic photographs, maps, and drawings.

Property Owner

name/title: Pipe Spring National Monument
(Contact: Andrea Bornemeier, Chief of Interpretation and Resource Management)
street & number: 401 N. Pipe Spring Road
city or town: Fredonia **state:** Arizona
telephone: 520-643-7105
zip code: 86022

Item 7
Summary Description

The Pipe Spring National Monument Historic District includes three historic sandstone buildings (the imposing Pipe Spring fort, flanked by two small cabins, one to the west and another to the northeast); two historic-period sites (the Whitmore-McInytre dugout and a lime kiln); and three structures associated with the site's history (the quarry trail, fort ponds; and retaining walls northeast of the fort). Construction dates for these resources range from 1863 to ca. 1885. Built by local craftsmen, the architectural style of the buildings is vernacular with the fort incorporating some Classical design elements. Noncontributing buildings and structures within the district include a reconstructed telegraph line, two sections of retaining wall, and a corral complex, outhouse, and chicken coop. Non-intrusive, tinted concrete walkways, laid in 1991, provide visitor access to the historic buildings, ponds, and waysides. Other landscape features on the 40-acre monument that lie outside the district boundaries include a vegetable garden, orchard, vineyard, corrals, and fencing. Modern developments, also located outside district boundaries, are at the southernmost part of the monument and include a residential area, maintenance area, and access road. This area is fairly well screened by plantings. Currently, the monument's administrative offices and visitor center are located just outside the monument's east boundary in leased portions of a Park Service-designed building, constructed of native sandstone in the early 1970s on the Kaibab Indian Reservation. (See historic district map and map detail.)

The fort at Pipe Spring needed considerable restoration work after the monument was established in 1923, and the associated east and west cabins required partial reconstruction. Most exterior work was carried out between 1924 and 1941; restoration work on building interiors continued into the 1950s. The last major restoration work on the fort occurred in 1959 when architectural changes made about 1885 were reversed in order to return the building to its original appearance. Preservation activities on the buildings and ponds have continued to the present time. Today the historic resources at Pipe Spring are in good physical condition and retain sufficient integrity of location, design, setting, materials, workmanship, feeling, and association to remain listed on the National Register of Historic Places.

The Pipe Spring site was administratively listed on the National Register on October 15, 1966. Most of the historic resources at Pipe Spring were documented in an earlier nomination, accepted August 25, 1986. Due to extensive corrections and substantive additions contained in this nomination, this nomination is submitted to replace (not amend) the earlier one. The following changes contrast the 1986 nomination and current one:

1) Instead of being from 1858 to 1884, the period of significance has been changed to begin in 1863 and end in 1895. Justification is provided in Item 8.
2) The site was previously only recognized for significance under the area of exploration/settlement. Additional areas of social history, women's history, and communications have been added.
3) Additional historic resources have been evaluated as contributing to the district, resulting in the addition of the quarry trail and a lime kiln site. Clarification on which retaining walls date to the historic period and which do not is also provided.
4) Prior district boundaries, which included only the fort, cabins, ponds, stone walls, dugout site, have been expanded to include the quarry trail, lime kiln site, and reconstructed telegraph line.
5) The acreage of the historic district has been enlarged from 2.5 acres to an estimated 6.5 acres to include the additional contributing resources and one noncontributing resource (the telegraph line).
6) Numerous factual errors in the original nomination have been corrected in this nomination, verified through additional research.

7) The descriptive section (Item 7) is far more detailed and includes a comprehensive chronology of changes to historic buildings. A location and background section has also been added. The statement of significance (Item 8) provides a greatly expanded historic context to better convey the site's historical significance, particularly with regard to the Church of Jesus Christ of Latter-day Saints' ties to the site. Ethnographic and ethnohistorical background are also provided for the first time.
8) Cultural landscape issues are addressed.

The changes noted above provide far more comprehensive documentation of the historic resources associated with this nationally important site.

Location and Setting

Pipe Spring National Monument is located on a 40-acre tract of land in Mohave County, in the northernmost part of central Arizona. The monument is eight miles south of Utah's southern boundary, 60 miles southeast of St. George, 20 miles southwest of Kanab, and 15 miles west of Fredonia on State Highway 389. The settlement of Moccasin is located four miles north of Pipe Spring, just a few miles south of the Utah line. The entire stretch of land between Utah's southern boundary and the Grand Canyon is known as the "Arizona Strip." This region has very strong historical and cultural ties with Utah among the immigrant "Mormons," a popular term for those with religious or cultural ties to the Church of Jesus Christ of Latter-day Saints (Church). The Kaibab Paiute consider the larger area encompassing the southern half of Utah, northern Arizona, and portions of Nevada as traditional areas of prehistoric and historic use. Pipe Spring National Monument lies completely within the boundaries of the Kaibab Indian Reservation, established before the monument was created.

There are three springs at the monument: the main spring (Pipe Spring), emerging from beneath the fort itself; tunnel spring (located just southwest of the fort); and cabin spring (a seep spring near the west cabin). The springs are fed by the Navajo Sandstone aquifer to the north and west, via the Sevier Fault. Because there is more than one spring at the site, for many years it was referred to as "Pipe Springs," although the monument's official name was never plural. The fort is located on a hillside, which slopes in a southerly direction.

The monument occupies the Moccasin Terrace of the Markagunt Plateau at the southern sloping base of the Vermilion Cliffs. From this site, a dry plain slopes southward for 30 miles before it descends dramatically into the Grand Canyon. The elevation of the monument is 5,000 feet, the climate is fairly temperate, and the plant and animal species are typically semi-desert. North of the monument is pinyon-juniper woodland. Intermingled with and at the edge of this woodland community is a sagebrush grassland with sagebrush dominant on the more level areas of ground and pinyon-juniper occurring on the shallow rocky soils and broken country of adjacent higher elevations. Other on-site vegetation includes rabbitbrush, prickly pear cactus, and sagebrush. Culturally introduced plant materials include a variety of shade trees (ash, cottonwood, poplar, elm, locust, ailanthus), fruit trees, a grape arbor, and a vegetable garden. Animal species include small rodents, reptiles, birds, coyotes, badgers, and porcupines. High temperatures range in the summer from 90 to 115 degrees; in the winter, normal low temperatures range from 0 to 40 degrees.

During its 75-year history as a national monument, there have been numerous changes to the landscape immediately surrounding the historic buildings. Initial changes involved "cleaning up" the setting through removal of old corrals and fences related to the site's use as a cattle ranch. National Park Service (NPS) efforts to research and recreate the fort's historic setting began in earnest during the 1960s but there was scant historic evidence. Orchards, gardens, and a grape arbor were established and several corrals were rebuilt. The old telegraph line was also reconstructed within monument boundaries. Finally, in 1997 a cultural landscape inventory of the site was completed, which determined the setting lacked sufficient historic integrity to qualify as

a cultural landscape.[1] Still, the recreated features enhance the fort setting and continue to be maintained. Other areas outside the district but within monument boundaries, such as the site of the old Civilian Conservation Corps camp and an early NPS campground, have been allowed to revert to their natural state.

Physical Description

Fort Exterior

The Pipe Spring fort consists of two rectangular masonry buildings built on sandstone foundations, situated parallel to each other and separated by an enclosed, gated courtyard. The exterior walls are made mostly of blocks of red sandstone from the Kayenta Formation, cut from debris on nearby talus slopes and cliffs, and set in a coursed ashlar pattern. A small number of stones on the north elevation were cut from the overlying yellow Navajo Formation. The original mortar used was a mixture of clay, sand, and lime.[2] Lumber for the fort came from a sawmill at Mt. Trumbull, located 60 miles from Pipe Spring in the Uinkaret Mountains of the Uinkaret Plateau. Lime was brought from a deposit located eight miles to the southwest near Cedar Ridge. Exterior wall thickness varies from 1½ to 2 feet. Stones were cut with a hand-pounded drill or "jumper," then split with wedges and pared to rough finish on site. Drill marks remain on many stone faces. Corners of the fort are reinforced with non-decorative quoins. Overall dimensions of the fort are 68' 1" by 43' 10". Some of the fort's exterior woodwork is original and some is replacement. It has been repainted or treated with preservative on numerous occasions. Additional architectural investigations and research is needed to distinguish historical from replacement woodwork. While the balconies and catwalk floors have been replaced on several occasions, records indicate original rails and balusters were retained unless very deteriorated, so some may be original.

Both buildings are two-story and basically identical in size and shape. The northwest portion of the fort has historically been called the "upper building," and the southeast portion, the "lower building." [3] The two buildings face each other and present their main access toward the courtyard, overlooked by four bay, full-length, shed-roofed, wood balconies at the second floor level. The balconies are framed with chamfered columns and decorative balustrade. Access to the balconies is from the second floor rooms and an exterior wood staircase located near the southeast corner of the lower building, inside the northeast wall. A 2-foot wide catwalk connected to the southwest courtyard wall links the two balconies. From the courtyard, a stone-lined, recessed stairwell provides access to the lower building's spring room (no. 2). The upper building is accessed by two doors with stone stoops, one to the parlor, and the other to the kitchen.

The southwest and northeast walls of the buildings extend to totally enclose the courtyard. Centered within these walls are 10 x 12-foot outward-swinging gates, each having wooden double doors with heavy wrought iron hardware. The gates are replicas of the originals, fashioned from three layers of diagonal, random width, tongue-and-groove boards, mounted with three pair of 4-foot strap hinges and pintles, which are bolted into a frame constructed of heavy timbers. The north side of the gates on the northeast elevation of the fort has a door cut into it. The courtyard gates are the fort's main entrances, originally designed to be large enough to permit entry of covered wagons. Just west of the fort are four mature Siberian elms, descendants of a group of elms planted by the fort's occupants in 1885.

[1] Pipe Spring National Monument Cultural Landscape Inventory, August 1997, monument files.

[2] Years ago, stonework was extensively repointed with Portland cement; current repointing, however, uses a more appropriate sand, clay, lime, and cement mixture.

[3] HABS documentation refers to the upper building as the "north wing" and the lower building as the "south wing" although the building is oriented off-axis. These two buildings have also been called the "upper house" and "lower house."

There are only two exterior doors that provide access into the fort, other than the courtyard gates. One is on the southeast elevation of the lower building at ground level, east room (no. 1 on the accompanying floor plan) and the other is on the northwest elevation of the upper building, second floor, east room (no. 9). Both doors are inset from the outside wall surfaces and the openings cased in a paneled frame. The upper building door exits to the north about two feet above ground level onto the hillside behind the fort; the other door exits south onto a sandstone stoop. Both doors are fashioned of two layers of tongue-and-groove boards with the exterior boards laid diagonally over vertical interior boards. The door in room no. 9 has been trimmed to appear like a four-panel door from the inside, making it in places three layers thick. Both exterior doors have wrought-iron latches; the lower building door also has strap hinges. For defensive purposes, neither of the buildings' outward facing exterior walls was constructed with windows but instead walls were supplied with a total of 22 small gun ports located at random levels. While most are about five inches wide, these vary in height from about 8 to 12 inches. Glass was placed over the ports after their 1959 restoration. (One port on the northeast elevation is currently open.)

Multi-light, double-hung sash windows and raised four-panel doors are located on most interior walls of the buildings, all facing the courtyard. On the first level, the upper building has four 6/6 windows and two four-panel doors; the lower building has three 3/6 windows and a door to the west room, known as the spring room. This wall is about one-half story below ground level, so that the windows are placed just above grade. Four stone steps lead down a recessed, stone-lined stairwell to the spring room door. This door has six lights over two panels. On the second story, the upper building has four 6/6 windows and two four-panel doors; the lower building has four 6/6 windows and one centrally located four-panel door.

The upper building of the fort abuts a hillside that historically yielded the site's primary source of spring water. Because it was constructed at a slightly higher elevation, the upper building stands six feet higher than the lower building. Historically, the spring water flowed by gravity southward, beneath the floor of the upper building's west room or parlor (no. 3), then through a stone-lined trough across the courtyard, and into the west end of the lower building's west room (no. 2). At different times this room has been called the spring room, dairy room, or cooler. The water flows into the spring room then through a 12-foot long wooden trough (hewn from a 2-foot diameter log) before it exits the building. It then flows beneath a walkway and into a narrow stone-lined channel to the ponds. Some spring water also flows outside the fort to a watering trough located a short distance to southwest, through an underground trench. Overflow from this trough is channeled into the ponds.

There were two advantages to the system of directing the spring water through the fort and into the spring room. The water cooled the west room of the lower house, preventing spoilage of milk products stored there. Perhaps most important from a strategic standpoint, fort occupants were always assured a supply of water in case of enemy attack. From the standpoint of building preservation, however, the spring's proximity to the fort's rear wall and its passage beneath the upper building has long created a number of serious moisture problems, both to the exterior walls and interior wall plaster and floors. These problems - and the Park Service's repeated attempts to address them - are described in a later section.

The gabled roofs of the upper and lower buildings of the fort are medium-pitched and covered with 16-inch cedar shingles. Two flush end stone chimneys are located on each building, centered over the gable ridgeline. A frame and weatherboard cupola is centrally located on the roof of the upper building with a short flagpole on top.[4]

[4] Monument maintenance records indicate the "crow's nest" was removed in 1914 and reconstructed in 1927.

Fort Interior

In both buildings, all of the plaster walls and ceilings, as well as most of the tongue-and-groove pine floors, have been replaced or extensively repaired over the years. The only wood floors believed to be the same as they were in 1923 (thus possibly original) are upstairs in the upper building, rooms 8 and 9. These are random width tongue-and-groove pine. The flagstone floor in the spring room is also mostly original. Throughout the fort, most walls and all ceilings are plaster on lath; some exterior walls may be plaster on stone. Three-inch wide picture molding and baseboards of varying widths (5½ to 9 inches) are found in all rooms except those on the first level of the lower building. Picture molding occurs only on interior and partition walls, not on the inside of exterior fort walls. The fort has been furnished throughout as a house museum, interpreting the 1870s ranching era. Descriptions of the interiors of each of the two buildings are provided below.

Lower building

The first floor level of the lower building has two rooms, both with flagstone floors. Walls are plaster but neither room has a ceiling; upper level floor joists are exposed. A door from the courtyard provides access to the spring room (no. 2). The way the spring passes through this room was described earlier. An interior doorway provides access through a stone wall between the spring room into the slightly larger east room (no. 1) called the cheese room.[5] The cheese room has an exterior door on the south wall, described earlier. There is a small trapdoor in the ceiling of this room that once provided access to a room above. The cheese room also has a fireplace with a plain wood mantle above, heavily carved with graffiti. Former Custodian Leonard Heaton had his office in this room for at least 30 years, until 1959. In the early years of the fort, these two rooms were used for the production of butter and cheese, with the spring room also used for cold storage. Both rooms are now furnished to reflect this early activity.

Upstairs in the lower building there are three rooms (room nos. 5, 6, 7). Floors are 5¼-inch wide tongue-and-groove pine; walls and ceilings are plaster. The west room (no. 7) was originally used as the telegraph operator's office and sleeping quarters and is furnished accordingly. (It is sometimes called the “telegraph room.”) The east room (no. 5) was used and is furnished as a bedroom. Both rooms have stove inlets located in the chimneys on exterior walls. The middle room (no. 6) is currently furnished as a sitting area but in the past was used as a bedroom.

Upper building

The first floor level of the upper building consists of two rooms, the parlor (no. 3) to the west and the slightly larger kitchen (no. 4) to the east. Flush chimneys are located on the outer walls of each room, with a fireplace in the parlor and stovepipe inlet above the kitchen fireplace. Each fireplace is centered on the wall and has a flagstone hearth. The fireplace in the parlor is flanked on either side by floor-to-ceiling cupboards with raised panel doors. The flooring in both parlor and kitchen has been replaced four times since 1926, most recently with 5-inch pine in 1980. The kitchen also features built-in cabinets with raised panel doors, located on either side of the fireplace. A single, enclosed stairway against the kitchen's north wall leads to the second story. Random width tongue-and-groove boards enclose the stairway and form a small storage space beneath, accessed by a 5’2” tall two-panel door. The second floor of the upper building has two bedrooms (nos. 8 and 9), with the east room approximately double the size of the west room.[6] Each room has a door that accesses the courtyard balcony and stove outlets located in a chimney on the exterior wall. In addition, the east room has an exterior door on its north

[5] Leonard Heaton said in a 1980 interview that he did not think this door was original, but recent architectural investigations indicate that it is.

[6] The HABS drawing shows three rooms; a partition added soon after the fort's original construction was later removed by the NPS.

wall and both rooms have similar, random width tongue-and-groove pine floors. (These have not been replaced since NPS ownership.) Walls and ceilings on both levels of the upper building are plaster.

Fort Ponds

Once the main spring exits the fort, it is channeled into the fort ponds, located about 30 feet southeast of the lower building.[7] The ponds consist of two stone-lined, rectangular-shaped, inter-locking reservoirs, approximately 3 to 4 feet deep. The west pond is about 50 x 90 feet and the east pond is about 50 x 85 feet. The north side of the ponds has a single wall; the outer ends and south side of both ponds have double walls with varying widths of earth fill between them. A 5-foot wide concrete walkway passes between the ponds. Underneath this walk is a drainage pipe that connects them. A variety of shade trees (cottonwood, ailanthus, and Siberian elms) grow through and around the pond walls. These reservoirs were originally dug in 1879 when the ranch was under the Church-controlled Canaan Cooperative Cattle Company.[8] The first ponds were smaller than the current ones and without walls. Modifications were made about 1885, described below. The ponds served as a primary reservoir for irrigation water during the historic period and continue to serve that purpose today. During much of their history they have been stocked with fish, originally carp. (Leonard Heaton stocked them for years with trout as well.)

The fort ponds were not the only water reservoirs constructed at Pipe Spring. During the cattle ranching period, a number of troughs and watering holes for livestock were located west of the fort, in the area of the monument's western boundary. Oral history also suggests that wooden troughs were at one time located at the west end of the west pond. (None of these survive, although the NPS kept a watering trough on site to accommodate riders on horseback.) After the creation of the monument, Heaton built two large ponds in 1926 and 1927 southwest of the fort in order to impound spring water from tunnel spring for irrigation of pasture and crops. These were called the "meadow ponds" (sometimes "fish ponds") to distinguish them from the fort ponds. Either the upper one was removed or the two were joined about 1932. When Camp DG-44 was established at Pipe Spring during the Great Depression, the meadow pond was lined with flagstone and converted into a swimming pool. Although NPS officials at Zion National Park discouraged its use as for swimming after World War II, the meadow pond was still used as a local swimming hole until July 1967 when it was filled in. The site is now obscured by native vegetation.

Changes to the fort and ponds, ca. 1885

While the Pipe Spring ranch was under the management of Edwin D. Woolley, Jr. (1885-1891), a number of alterations were made to the fort's exterior, principally the cutting of windows and a door opening and the removal of the large wooden gates on the east and west end of the courtyard. These changes were made in order to let in more air and light and to minimize its fortress-like feeling. Another change made during this period was that brick extensions were added to the upper building chimneys. The work was done at Flora Woolley's request to improve the chimneys' draw and to keep flying red ants from nesting in them.[9] The diversion of the main spring outside the fort was another alteration made during the Woolley period, a change that would be partially reversed in 1953 by Leonard Heaton. Landscape changes made during the Woolley period included the planting of cottonwood, elm, willow, and ailanthus trees near the fort and changes to the ponds. The ponds were enlarged, the banks built up, and stonework was constructed around them. The ponds were used then as a reservoir for water to irrigate orchard, garden, alfalfa, and currants.

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[7] Long ago an old wagon road passed between the fort and ponds; it was relocated south of the pond during the winter of 1933-1934 and was later abandoned altogether.

[8] Adelia Cowley Gibson, daughter of a blacksmith living at Pipe Spring during the 1870s, reported she was baptized there by immersion at age 8, suggesting a reservoir may have existed at Pipe Spring by 1876.

[9] The extensions were removed at some point by the NPS.

East Cabin
The east cabin, partially reconstructed in 1925, is a three-bay, irregularly shaped structure built into a hillside, constructed of 1½-feet thick, rubble stone masonry with cement pointing. It is oriented roughly on a north-south axis, located northeast of the fort. The cabin is 62' 3" long, with a 14' 10" wall on the south end and a 17' 2" wall on the north end. The floor plan consists of two rooms separated by an open bay covered by a continuous gable roof. The east room is slightly larger than the west room and also built further back into the hillside. The floor is natural earth; interior walls are unfinished and there is no ceiling, only the exposed roof structure. There are four, 3/6 single hung windows on the east elevation, along with two doorways, one to each room. The doors are made of two layers of tongue-and-groove boards (inside aligned diagonally, outside vertically), with wrought iron strap hinges and door latches. Doorjambs are 2 x 12-inch wood. Window and door lintels are made of long cut stones. There are twin end chimneys of rubble stone masonry. None of the woodwork is original.

Since its 1925 reconstruction, the east cabin has had a low-pitched gable roof. The current roof (replaced most recently in 1997) has much the same appearance of the early reconstruction but several "hidden" modern features were incorporated to prevent moisture problems and to correct structural deficiencies by increasing the load-bearing capacity of the roof. The roof structure consists of three 10-inch diameter log vigas running lengthwise topped with 3 to 4-inch diameter juniper latillas with flush cut ends. Above the latillas is a layer of juniper bark then a modern single-ply roof system, topped by 4 to 6 inches of dirt. The roof of the east room has three vertical 8-inch log supports; the west room has a horizontal cross member and one vertical support. All vigas and their supports are ponderosa pine. At the rear of the cabin, the roof overhangs the ground at varying heights, from nearly touching the ground on the north end to about 12 inches above ground on the south end. A 6½-foot wide non-historic flagstone walk is located along the east elevation of the cabin. From here, one 4-foot wide concrete walks connects the cabin to the fort and another goes from the east cabin toward the ponds.

The Utah Territorial Militia originally constructed the north section of the cabin by 1868.[10] The south section was built in 1870. Anson P. Winsor's family lived in this cabin while the fort was under construction, reportedly sharing it on occasion with Joseph W. Young, who was charged with overseeing the fort's construction. In later years it was used to provide living quarters for families or for cowboys gathered at Pipe Spring for the annual branding. During the Woolley period of occupation, the cabin was reportedly used as a chicken house and stable. It was allowed to deteriorate between 1895 and the time the property was acquired by the Park Service, being used as a cow and pigpen by those who lived at the fort. When the site was acquired by the NPS, only partial, deteriorated masonry walls remained. For a number of years after its reconstruction, Custodian Heaton used the east cabin as workroom and stored tools and fuel there. In the fall of 1937 Heaton's old barn was remodeled into a garage and an underground oil and gas storage structure was built. Then the tools and fuel were moved to the new garage. In December that year, the east cabin was cleaned out so it could be exhibited along with the fort as a historic building. Names used to refer to this structure at various times include guard house (during the militia's use), old quarters, old stables, and blacksmith shop. The east cabin is currently empty.

West Cabin
Like the east cabin, the west cabin is built into the hillside, oriented nearly on an east-west axis. Partially reconstructed in 1929, it is a 43' 6" x 17' 5" rectangle, constructed of 1' 4"-thick rubble stone masonry. The floor plan consists of two rooms, sharing a common partition stone wall with a door opening next to south wall and back-to-back masonry fireplaces. The west room is slightly larger than the east room. Like the east cabin, the west cabin floor is earth; interior walls are unfinished and there is no ceiling, only the exposed roof structure. There are

[10] Once secondary source (Clemensen) states it was constructed in 1867, others date it to 1868.

three, 6/6 single hung windows on the south side of the cabin and one on the east elevation. Access to each room is through an exterior wood door, both located on the south elevation. Doors are made of two layers of tongue-and-groove boards (aligned vertically on the exterior, diagonally on the interior). Doors have wrought iron strap hinges and door latches. Doorjambs are 2 x 12-inch rough-cut lumber. Window and door lintels are made of wood. None of the woodwork is original.

The cabin has a low-pitched gable roof. The roof structure consists of three log vigas and a log ridge beam; logs are ponderosa pine. Each viga has a tapering juniper log support. Latillas are 3 to 5-inch juniper with chopper cut ends, topped with juniper bark and earth. At the rear of the cabin the roof overhangs the ground by about two feet. A 6½-foot wide non-historic flagstone walk is located along the south elevation of the cabin extending another 24 feet west along a stone retaining wall. A 4-foot wide concrete walk connects the west cabin to the fort.

The west cabin was originally built in 1870 to house the workers who constructed the fort. Later its primary use was to house ranch hands until the mid-1890s, after which it probably stood vacant. Often referred to as "the bunkhouse," the building was used for a variety of activities after the creation of the monument. Soon after Camp DG-44 arrived at Pipe Spring, the west cabin was used as a temporary classroom. It was vacated in March 1938 after an education building was built within the camp. The Grazing Service's range survey crew also used it in 1937 as a map room and office. During 1938 it was used as a photography dark room. After World War II, Heaton began installing displays from the museum's collection in the cabin. Currently, it is furnished as a cowboy's bunkhouse with beds, tables and chairs. Fixed wood and metal stanchions inside the cabin limit visitor access.

Retaining Walls
Sandstone retaining walls are currently located both west and northeast of the fort and in association with the east and west cabins. All are similar in construction (rubble stone masonry) but recent research suggests that only those sections northeast of the fort and near the east cabin were there during the historic period. This wall extends north in an irregular fashion from the fort's northeast corner, makes a right angle and passes behind an outhouse. It then turns to the east in a slight curve passing between the east cabin and chicken coop. Today, this section of wall ends a few feet behind the northeast corner of the east cabin, allowing foot traffic behind the cabin and adjoining corral. Archeological evidence, however, indicates the wall once joined to the cabin forming an enclosure. The height of this wall section varies from 2 to 4 feet, with most areas 3½-feet tall. There is about a 6-foot drop in elevation and a small gap between this section and the remaining section of the retaining wall that begins at the north wall of the east cabin and extends behind a reconstructed corral. The height of this section of wall tapers from 2½ feet at the east cabin to 8 inches at its north end. The combined length of the wall sections is approximately 200 feet. When the NPS acquired the property this retaining wall, like the cabins, was in a deteriorated state. With the help of a Civilian Works Administration work crew, Heaton did extensive stabilization work on the wall during the winter of 1933.

Another long section of retaining wall extends southwest from the fort's southwest corner with a set of stone steps inserted to allow pedestrian access to the southwest side of the fort. This wall is uniformly 2½ feet in height. A 12-foot long wooden watering trough is located in front of and near the wall's west end. Documentation suggests this wall was not original, but was built, according to Southwest Monument Superintendent Frank Pinkley, as "a terrace wall 30 feet long" in 1925, the same year the pond walls were partially reconstructed. Compared to a 1934 photo, the current wall appears to have been modified considerably since its construction, thus would not even retain integrity from the early NPS period. Although this section of wall is somewhat stylistically compatible with the retaining walls located east of the fort, it is considered a noncontributing structure due to its date of construction and subsequent alterations.

The last section of retaining wall associated with the historic buildings is located at the west end of the west cabin. It varies in height from 18 to 24 inches and is 35 feet long. A historic photograph suggests there may have been remnants of a retaining wall at this location when the monument acquired the property, like the walls just west of the fort, this retaining wall appears to have been either newly constructed or completely reconstructed either in the late 1920s or early 1930s. It does not appear in a 1940 HABS photo, suggesting it has been removed and rebuilt several times. It is considered a noncontributing structure.

The exact date of original construction of the historic retaining walls is not known. Rock walls east of the fort are depicted in photographs dating to the early 1900s. Their alignment appears to be the same as it is today. These walls were reportedly built about the same time as the fort pond walls (ca. 1885), during the Woolley period of occupation. In the late 1950s Leonard Heaton referred to the eastern section of wall as a "stock enclosure." There has also been speculation that the east section was associated with an old chicken coop. Since the east cabin was reportedly used during the Woolley period as a chicken house and stable, both uses may be true. This would also support the idea that these retaining walls were built during the Woolley period. Over the years all the monument's retaining walls, including those that surround the fort ponds, have undergone periodic stabilization work and repointing.

The Quarry Trail
A narrow, unpaved ½-mile long loop trail heads west from the west side of the fort, passes behind the west cabin, and ascends along the face of a moderately steep cliff. Shortly before it reaches the monument's west boundary, the trail switches back toward the east, then continues further up the cliff to an overlook far above the fort. It then circles back down the hillside to the fort. The entire trail is known as the Rim Trail. Only a small portion of this trail, however, is associated with historic quarrying activities and that is the section located along the talus slope and cliffs west of the fort. This older portion of trail is known as the quarry trail. It is about 500 feet in length and varies from 2 to 3 feet in width. During the fort's construction, blocks of sandstone were cut from the talus or cliffs along this trail. There are still pieces of rejected stone with chisel cuts that can be seen along it. The partially worked stones were placed on a forked log called a "rock lizard" and dragged by an ox down the trail cut or worn along the face of the cliff. This contraption has also been called a "stone-boat," thus the trail has also been referred to in the past as the stone-boat trail.

Beginning in 1934, Leonard Heaton urged NPS officials to create a nature trail that would ascend nearby cliffs, using the old quarry trail as the initial stretch of trail. Although his suggestion was given serious consideration from the 1930s into the 1960s, the trail ranked too low in priority compared to other monument needs. The current loop trail was finally constructed during the summer of 1968 when government-sponsored youth employment programs supplied the monument with additional workers. It is still in use today as hiking and interpretive trail. There are no built features along the historic portion of the trail to detract from its original character, only a few waysides that relate the area's history and geology.

Lime Kiln Site
Lime kilns were used historically during building construction to burn lime that went into the mortar for stonework and in the plaster. Winsor family history references two lime kilns "below" the west cabin during the time of the fort's construction. Since the NPS acquired Pipe Spring, however, only one kiln site has been positively identified. (No archeological investigations have yet taken place at the site and future archeological investigations may yet identify a second kiln site.) The site is located approximately 200 feet west of the west cabin and about 50 feet north of the old monument road trace.

In 1940, Leonard Heaton sent headquarters a sample of lime found at this kiln site, along with a sample of original fort plaster, for analysis. It was determined by an agricultural chemist at the University of Arizona that the plaster sample was prepared from the type of limestone sent by Heaton, thus he was told he could tell visitors the plaster was made from local limestone. A short time before he retired (1963), Heaton asked if the kiln could be reconstructed but superiors denied his request. In 1964 Historian Bob Olsen described this kiln site as a mound of rocks, sand, and dirt, measuring 4 to 5-feet high by 15 to 20-feet wide. Scattered around the site were small rocks of lime slag and some lime. In 1969, Supt. Ray Geerdes and Zion National Park officials were in favor of reconstructing the lime kiln, but like the Whitmore-McIntyre dugout, this work was never done.

Whitmore-McIntyre Dugout Site
According to a site map prepared by the archeologist who excavated it in 1959, the site of the Whitmore-McIntyre dugout is located about halfway between the fort and east cabin, south of a walkway that was there in 1959. That walkway no longer exists and two other walks currently straddle this area. The dugout site's precise location is unmarked, however a nearby wayside describes its history. Constructed in 1863, the dugout is the oldest known structure associated with Euroamerican occupation of Pipe Spring. James M. Whitmore established a ranch at the site and built the dugout for use as a temporary shelter for him and his ranch hand. It was used for that purpose until he and Robert McIntyre were slain by Indians in 1866 (see Item 8 for details). Militiamen may have used the dugout while they built the east cabin ca. 1868. Anson P. Winsor's son also temporarily lived in the dugout in 1870, some months prior to when construction on the Pipe Spring fort began. Not long after the fort was built, the roof of the old Whitmore-McIntyre dugout collapsed, reportedly under the weight of a cow. The dugout was used thereafter as a trash pit by residents of Pipe Spring. Eventually it filled up and was covered over with dirt, probably completely obscured by the time the site was made into a national monument.

On February 13, 1936, while laying a flagstone walkway from the east cabin to the fort, Custodian Leonard Heaton and a crew of CCC boys uncovered the site of the dugout. The boys continued to excavate under Heaton's supervision the following day until Heaton's suspicions were sufficiently confirmed by finds of broken crockery, animal bones, a mule shoe, burned rock, and other materials. Heaton then stopped work and reported his find to Southwestern Monuments headquarters. He was immediately ordered to cease excavations and to backfill the site. The alignment of the walkway was subsequently rerouted to avoid the archeological site. Its location was then depicted on subsequent monument master plans, shown approximately 30 feet south of the east cabin.

In August 1959 NPS archeologist Zorro A. Bradley excavated and reported on the site. (While he reportedly excavated where Heaton directed, Bradley's site map shows it in a different location than the earlier NPS master plans. It is depicted as halfway between the east cabin and fort.) The 11' 5" x 8' 2" dugout had two rubble drylaid sandstone masonry and two earthen walls, with the longer axis and masonry walls oriented north and south. The masonry walls were laid on the earth bank 18 inches above the floor, which was excavated to about five feet below grade. These north and south walls protruded from six to eight feet above grade. The east and west walls were earthen. The floor of the entrance and the dugout were laid with large sandstone slabs. A fireplace was located in the northwest corner, consisting of two mall stone blocks used in an andiron fashion. Bordering the entrance at the room perimeter were two posts where the door was housed. (The door was probably constructed of vertical boards nailed and cross-braced together.) These posts were approximately 10 feet above the floor. The most southeastern post supported the ridgepole upon which juniper logs were laid close together. On the logs was laid a layer of bark chips with thin sandstone slabs, then clay. The roof extended in front to form a porch-shed that partly overhung the entrance, and was rather flat with a slight pitch to the north and south.

While a number of people wanted the dugout to be reconstructed (some of James Whitmore's descendants and Leonard Heaton, in particular), the decision would soon be made to backfill the site. Heaton made reconstruction

of the dugout his first priority for work in 1959. Archeologists Erik Reed, however, recommended backfilling to afford the best protection to the dugout because, he said, "The dirt and clay walls, as well as the remaining crude masonry walls would be almost impossible to maintain."[11] The dugout was backfilled in December 1959. In 1969, Supt. Ray Geerdes garnered support from Zion National Park officials in favor or restoring the dugout, but either due to cost or opposition by NPS archeologists, the work was never carried out.

Noncontributing buildings and structures

There are two small noncontributing buildings within the boundaries of the historic district, both located northeast of the fort. The reproduction outhouse represents one that, according to Woolley family history, was at this approximate location in the late 1880s. The other is a small chicken house with fenced yard where poultry are kept. In March 1969 Anthony G. ("Tony") Heaton of Moccasin donated the chicken coop to the monument at a time when it was trying to include more farm animals in its “living ranch” setting. At that time Heaton told monument staff that the coop was made from lumber taken from a blacksmith shop formerly located at Pipe Spring. According to information provided on the 1976 LCS report, the blacksmith shop originally stood between the fort and east cabin. The report states that it was moved to Moccasin at an unknown date and privately used until it was returned in 1969, albeit modified into a chicken coop. The building lacks sufficient historical integrity to be considered a contributing building. The story about the blacksmith shop is poorly documented and no such building appears in historic photographs.

There are three noncontributing structures within the district, two of which incorporate old materials. The retaining wall just west of the fort was built in 1925, described earlier. Another structure is the east cabin corral complex, built at two different times. Historic photographs show a corral at this location. An old 300-post stake-and-rider fence was found in the area in 1964, purchased for $100 in 1965, and installed at Pipe Spring in 1966. During 1969 area ranchers donated additional old fencing and the corral was enlarged.

The third noncontributing structure is a reconstructed portion of the Deseret Telegraph Company’s 1871 telegraph line. This line consists of two discontiguous sections. One section, composed of three poles, line, brackets, and insulators, begins at the north boundary of the monument, and runs in a southwesterly direction to the east side of the fort. The other section has four poles, line, brackets, and insulators. It begins at the monument's west boundary and runs in an easterly direction to the west side of the fort. The history and significance of the Deseret Telegraph Company and the importance of Pipe Spring as Arizona's first telegraph station are described in Item 8. Use of the old line ended on June 2, 1937, a day after the phone company (Mountain State Telephone and Telegraph Company) placed its cable underground from the monument's north boundary to fort. Once the old line and poles no longer served a purpose it was only a matter of time before little physical evidence of it remained.

Leonard Heaton was quite conscious of the importance of the telegraph line, both to the history of the site and to the state of Arizona. Once the line was abandoned by the telephone company, he immediately began to preserve and re-erect portions of it at the monument. On June 2, 1937, Heaton reported in his journal, "The old line has been in use for 66 years as a telegraph line then as a telephone line. Built in 1871. I am getting enough of the old line and poles to reconstruct the line west of the fort within the monument as a relic of the past." On July 23 Heaton wrote that he had boys of Camp DG-44 "take the old telegraph line down north of the monument. It is to be placed west of the fort on the monument as a relic." On August 5 he and the enrollees reconstructed the old telegraph line from the west side of the fort to the monument boundary. This location is in keeping with that shown on an 1870s survey map, which depicts the telegraph line as it came from Rockville, Utah, to Pipe Spring.

[11] Erik K. Reed, memorandum to Paul R. Franke, October 1, 1959.

By the late 1950s, the original poles west of the fort had deteriorated to the point that Leonard Heaton decided to replace them. In April 1959, Heaton asked his brother Grant to locate replacement telegraph poles. In a recent interview, Grant Heaton recalled that he cut four large junipers to make the telegraph poles in a canyon about one mile south of Chrisis Spring.[12] These were delivered to the monument on May 2. Work to replace the old poles with the new ones was completed on May 28. The next spring Heaton had the poles painted black, perhaps to make them appear older. Unpealed juniper "ages" quickly and, only five years later, these were mistaken as original telegraph poles by monument staff.

Leonard Heaton retired in 1963 but remained in nearby Moccasin. In early 1964 monument Historian Robert W. ("Bob") Olsen researched the Deseret Telegraph Office's line along the eight-miles between Pipe Spring and Cedar Ridge. He plotted these and related sites on a USGS map. Local residents had used all the wire and some of the old telegraph posts in the 1920s for fencing, but some evidence still remained. On January 27 Olsen climbed the Vermillion Cliffs and, looking out over the plain, spotted a row of telegraph poles. On February 18 after obtaining permission from Tribal Chairman Vernon E. Jake, Joe Bolander and Olsen retrieved three poles and two insulators from the Kaibab Indian Reservation, all believed to be remnants of the original telegraph line. By April all telegraph poles at Pipe Spring were described as "authentic." In November 1964 the seven poles were treated with preservative, tarred, and set in place in March 1965. Olsen announced in his report for that month, "The installation of the original Deseret Telegraph line is completed." Apparently Olsen, who had arrived at Pipe Spring two years after Heaton replaced the four early telegraph poles with new ones, was unaware these poles were not authentic poles from the old Deseret line. This error was only recently confirmed through additional research. Still, the reconstructed line -- including the section reconstructed in 1964 -- appears to be located accurately within monument boundaries. One of the telegraph poles placed in 1959 (the one located near the lime kiln site) was hit by lightning in the early 1990s and was replaced in kind.

Glass insulators mounted on brackets to the telegraph poles vary in age, some being old enough to have been part of the Deseret line and others postdating 1893. Brackets too are a mixture of old and reproduction. According to museum records, a few of the brackets and insulators appear be original and site specific to the 1871 telegraph line at Pipe Spring, as well as some of the wire. Most of these original insulators, however, are not on poles but rather are affixed to fort balconies as the wire goes to the telegraph office in the fort. A number of the wood brackets on telegraph poles are reproductions, made in 1965. Because so little of the reconstructed telegraph line is original to Pipe Spring itself and because more than half the poles have been documented to be non-historic replacements, it is considered a noncontributing structure within the district. Still, it is a compatible landscape feature that helps interpret the significant theme of communication associated with the site's history.

Reconstruction, Restoration, and Preservation Work

The following sections describe by chronological era past reconstruction, restoration, and preservation activities on the district's historic resources (cyclic maintenance work is generally excluded). The information for this section is excerpted from the monument's administrative history, *Cultures at a Crossroads: An Administrative History of Pipe Spring National Monument,* cited in the bibliography.

Reconstruction, Restoration, and Preservation Work, 1924-1942

At the time of the monument's creation in 1923, the Pipe Spring site was visually unimpressive. The fort was in poor condition, particularly the lower building. Its primary associated structures, the east and west cabins, were in ruin, missing roofs, woodwork, and partial walls. Moreover, in the eyes of Park Service officials, the landscape was littered with an extensive array of old fences, corrals, and cattle troughs (the latter consisted of both wooden

[12] Grant Heaton, interviewed at Pipe Spring by Kathy McKoy, June 20, 2000.

troughs and open, mud-ringed pools of water which served as watering holes). What is now referred to as the old monument road, previously called the Kaibab Wagon Road, had long passed through all of this, right between the fort and ponds. Now that Pipe Spring was federal government property, however, practical as well as aesthetic concerns immediately arose and needed to be addressed. There were two immediate problems to be tackled: 1) the cleanup of the landscape and 2) the restoration of the buildings. Because the first task required only unskilled labor and very little expense, it was the earliest one undertaken.

The monument was one of 18 southwestern sites administered by Superintendent Frank ("Boss") Pinkley of Southwestern Monuments, headquartered from 1923 to 1943 in Coolidge, Arizona. Pinkley held this position from 1923 until his death in early 1940. The appropriation for general repairs to historic and prehistoric ruins in all the monuments under his care was $5,000 for fiscal year 1925; the same amount was requested for 1926.

The restoration of Pipe Spring's three historic buildings would take a great deal of physical effort, a good many years, and considerable funding to accomplish. It was a process that proceeded bit-by-bit, as labor and funds slowly chipped away at a very long list of needs. In September 1923, just over one year prior to the Park Service's acquiring title to the Pipe Spring tract, NPS Director Stephen T. Mather directed Frank Pinkley to go to the site and assess restoration costs. Mather told Pinkley the fort's large wooden gates needed to be rebuilt so the courtyard could again be enclosed, much of the woodwork needed to be replaced, and the roof required new shingles. Pinkley visited Pipe Spring early the following month. After consulting with Charles C. Heaton, Pinkley reported to Mather that he thought the west cabin should be restored first since it would provide experience with local materials and labor.

Due to the scarcity of money, restoration of the fort had to be put on hold until the fall of 1924. On October 15, 1924, Mather was able to get $300 set aside for restoration work at Pipe Spring. Pinkley assigned temporary caretaker John E. White the task of gathering together native building materials for work on the west cabin. During the winter of 1924-1925, White obtained logs and stone to be used in its reconstruction. He also cleaned out 20 loads of dirt from the cabin's two rooms and removed rock, which had been dropped in the cabin's chimneys by vandals.

East Cabin Reconstruction (1924-1925)
Pinkley evidently changed his mind about wanting the west cabin reconstructed first, for he spent the month of July 1925 at Pipe Spring overseeing reconstruction of the east cabin instead. When Pinkley inspected the cabin in 1924, it was missing its roof, the back wall, and part of the front wall. Using most of the $300 appropriation he had for the monument that year, he had the east cabin reconstructed, using the materials gathered the previous winter by John White. For the roof, pine stringers were used to support peeled cedar posts fitted tightly together.[13] It was then covered with cedar bark and dirt. Funds were insufficient that year to replace the hand-hewn window and doorframes. These were installed in 1925.

When John White left the monument in the fall of 1925, Director Mather made the decision to offer the monument caretaker's position to C. Leonard Heaton, oldest son of Charles and Maggie Heaton of Moccasin. From early 1926 to his retirement in 1963, Heaton would directly oversee the monument and all repair and restoration work on the historic buildings.

Repairs to the Fort Interior (1926-1930)

[13] The term "cedar" is locally used when referencing juniper. True cedar is not native to the area.

In early 1926 Pinkley turned his attention to restoration needs of the fort. Repairs to the fort's interior were made first. Work began on the ground floor of the lower building. The cheese room (no. 1) was in the poorest condition. The floor was dirt, little plaster was left on the walls, and there was no glass in the window (presumably, the exterior window that was infilled in 1959). Heaton replaced the glass in 1926. In early 1926 Pinkley also instructed Heaton to replaster the walls of this room (which Heaton did later that year) as well as the walls of the spring room. The spring had not flowed into the spring room since its diversion out of the fort by Edwin D. Woolley, Jr., in the late 1880s. It had originally flowed under the floor of the parlor (upper building), across the courtyard, then into the spring room. The restoration of spring flow into this room was thus linked to the condition and repairs required in the upper building. Heaton worked on this project over the winter of 1927-1928.

Next came work on the ground floor of the upper building, where the parlor and kitchen are located. The floors were in very deteriorated condition, particularly those in the parlor. Moisture from the spring that passed under the parlor floor had wreaked havoc on joists and floorboards. When Heaton removed these floors in August 1926, he found water standing on the ground beneath them. He believed that if he redirected the spring water across the courtyard and into the lower building, this would solve the moisture problem of the upper building. He proceeded to restore the spring flow into the spring room by using a two-inch pipe to conduct the water into the room where it entered a two-foot square concrete box. It exited the box into a wooden trough in the room. From the spring room it flowed into a rock-filled ditch which carried it to the ponds.

Because he thought he had solved the moisture problem, Heaton made no attempt to waterproof the kitchen and parlor floors when he replaced them with tongue-and-groove pine boards nailed to new 2 x 8-inch joists. No measurements were taken of the floor as it was removed since it was one installed by his father, Charles C. Heaton, in 1910 (most likely due to earlier moisture problems). As it turned out, moisture problems would be a recurring problem in the upper building's first floor, particularly in the parlor.

Floors proved to be less problematic in the lower building. After the NPS acquired the Pipe Spring fort, there was uncertainty over whether the original floor of the east room of the lower building had been dirt, wood, or stone. It had no flooring when it was acquired. In 1926, because of the absence of a sill, Pinkley suspected the original floor was stone and directed Heaton to lay a rock floor, which he did during March and April of 1927. (Eight years later Flora Woolley recounted there had been a wood floor when she lived at the fort, but this may not have been original.) The spring room, on the other hand, retained much of its original rock flooring. Only a few rocks were missing several feet from the north wall. Heaton and his father replaced these in March 1927. The rock used to replace or repair the floors of both rooms came from Bullrush Wash, located seven miles south of the monument.

The only part of the fort in fair condition when it was acquired by the NPS was the second floor of the upper building. While it had some warped floorboards and its walls were in need of plaster, its condition was far better than the building's ground floor. It contained three rooms, two of which (the center and east rooms) were created by the addition of a partition in about 1874. The floors and the wall plaster were thought to be original. This area only needed cleaning before it could used. Once Heaton had replaced the floors of the ground level of the upper building, the entirety of the upper building was useable as living space.

In June 1926 Heaton married Edna Robertson of Alton, Utah. Leonard and his 18-year-old wife made their first home in the fort. The couple moved to the fort "with a horse, two dogs, table, no chairs, a few dishes, and bedding," Heaton later recalled. Precisely where they lived in the fort varied from time to time, depending largely on the condition of the fort's various rooms. Since the upper building was in far better shape than the lower one, it was the couple's first living area. The east room of that level was presumably used as the kitchen. During this

period, according to Grant Heaton, the three upstairs rooms of the upper building functioned as bedrooms. (Years later the partition between the middle and east room was removed. There are only two rooms in this area now, rooms 8 and 9.)

At the time the NPS acquired Pipe Spring, the second floor of the lower building was one large open space, missing two of its interior partitions. The existing walls needed plaster and a number of floorboards were badly warped and needed replacing. Due to budget constraints, it would be another three years before Heaton could do anything with this area. In December 1929 Heaton hired a laborer to plaster the walls. In January and February 1930 he rebuilt the two missing partition walls. The family then moved from the upper building into the second floor of the lower building. Leonard's office was located in the east room of the ground floor of the lower building. The spring room was used for storage and as a "cold room." Once the upper building was vacated, Heaton opened it to the public, all except for the west room on the second floor, which he reserved for storage.

Fort Gates and Balconies (1926-1928); West Cabin (1929-1942)

During Frank Pinkley's July 1925 visit to Pipe Spring, he directed Heaton to begin certain work on the fort's exterior. Mather had wanted the great gates entering the courtyard to be replaced, but before that could be done the stonework that had once surrounded the gates needed rebuilding. Heaton and his father Charles began restoring the stonework for the courtyard gates in February 1928, completing the east gate reconstruction in March. Work on the west gate began in late April and was presumably finished in May. Grant Heaton was about 11 years old and living at the fort at the time. He remembered watching the older men work on the stonework, using two 12 x 12-inch beams to hold the rock in place. The father and son had found and used the original stones stacked neatly near the fort. In August 1928 Leonard Heaton completed and installed three of the four gates. The fourth gate was presumably hung shortly thereafter.

Pinkley had also directed Heaton to repair or replace the balconies on the upper and lower building. The one on the lower building was in especially poor condition. Heaton began work on the south balcony as soon as lumber arrived in September 1926 and completed work by April 1927, replacing everything except the center support post. He also replaced missing balusters and the flooring of the north balcony, but retained the original floor joists.

By the time the Park Service acquired Pipe Spring, the west cabin had no roof and only partial walls. It was not until 1929 that Heaton was given the job of reconstructing the west cabin. For the most part, Heaton reconstructed the cabin based on Pinkley's ideas. The walls were rebuilt to their original height, repointed, and window frames were installed. Pine stringers were used to support the cedar pole roof covered with cedar bark and dirt. On July 20, 1931, the west cabin roof beam broke and part of the roof caved in, requiring repairs. In April 1938 Heaton reroofed the west cabin, which had deteriorated over the nine years since its reconstruction. During the summer of 1942 Heaton stabilized the south wall of the west cabin. On July 22 he excavated outside the west cabin's west wall in preparation for new concrete footings. On the 29th Heaton wrote in his journal, "...the west end of the south wall [of the west cabin] looks a lot better since I pulled it back in line."

Physical Developments during the Great Depression

Pipe Spring National Monument was one of many Park Service sites that served as a site for a Civilian Conservation Corps camp during the Great Depression.[14] Camp DG-44 buildings were sited on the southwestern part of the monument. (No buildings and little surface evidence remain from the camp today.) The establishment

[14] Pipe Spring had a Civil Works Administration (CWA) program from December 16, 1933, to March 22, 1934, but the only project related to extant historic resources was the reconstruction of the retaining walls northeast of the fort.

of a camp at Pipe Spring National Monument in July 1935 and its four years of operations there had considerable impact both on the monument's development and on its landscape. Because it was a Division of Grazing camp, however, its usefulness (in terms of monument development) was limited, with most work assignments made outside monument boundaries. Within the monument, CCC enrollees based at Pipe Spring in 1935 and 1936 were involved in erecting boundary fences; laying out a campground, parking area, and walks; working on flood control and irrigation projects; constructing campground fireplaces, a water trough, and drinking fountain; building tables and benches for the campground; and landscaping monument grounds. By the spring of 1941, when the first funds for restoring the fort were made available, Camp DG-44 had already vacated Pipe Spring. Enrollees from another Grazing Service camp (Antelope Valley) were involved in 1941 restoration work, described in the next section.

During the summer of 1940, Heaton hired several men to do some repair work on the east and west cabins as well as some plaster work in several rooms of the fort's upper building, second floor. Monument maintenance records indicate that 12 inches of rock was added to the west cabin chimneys this year. HABS (Historic American Building Survey) documentation of the fort and cabins was completed in 1940.

Stabilization of Fort and Cabins (1941)
Considerable restoration work was accomplished on the historic fort and cabins in 1941. The stabilization work was originally planned to be carried out by Camp NP-12 as Job 59, but when application was made to the Army, it arranged for work to be done by Grazing Service camps instead as Pipe Spring Job 26. One purpose of work on the fort was to address moisture problems threatening its foundations. This work began on April 24, 1941, with Heaton overseeing four hired local laborers. On April 28 six boys from the Grazing Service's Camp G-173 in Antelope Valley arrived to assist with work. The job crew worked all of May. Excavating around the fort's foundation was the first project undertaken. On the east, west and north walls, excavation went down to bedrock or 10 inches below the foundation rock. A concrete footing was then poured under the foundation rock and extended out four to six inches. This was later tarred and backfilled. Heaton reported water seepage from the sandstone at the northwest corner of the fort complicated foundation repairs. In addition to attempts to waterproof the fort's foundations, other work was accomplished in May. The west wall of the fort that had been pushed in by an old elm tree was pulled back into place. Repairs to upper story balconies were also made. Both upper and lower buildings were reroofed in May. By June 13, the allotment for stabilization work had all been expended, so hired skilled and unskilled labor were terminated.

Heaton still had the labor of the CCC boys at his disposal until July 25. In June and July 1941, stone pointing was completed on the fort's exterior and some work was done on the fort's interior (wall replastering where needed) and rehabilitation work was carried out on the east and west cabins. These were reroofed with 45 pound rubber roofing paper, tarred, then covered with 2-4 inches of green shale. After the departure of the CCC work crew, Heaton was on his own again. He continued stabilization work on the cabins and plastering work in the fort.

Reconstruction, Restoration, and Preservation Work, 1947-1963
Administration of Pipe Spring National Monument was transferred from Southwestern Monuments to Zion National Park in February 1942. No significant work was done to any of the historic structures during World War II. Instead, emphasis was placed on historical research, exhibit planning, and furnishing the fort as a house museum. Beginning in the late 1940s and continuing up to his retirement in 1963, a number of projects were completed, all overseen by Leonard Heaton.

The Fort (1947-1950)

From October 1947 through mid-March 1948, Heaton was involved in preparation for and repair work in the fort's kitchen, in particular the replacement of its floors. When this job was completed, Heaton and his brother Grant Heaton began work on replacing the parlor floors, finishing in early April. In late November and early December 1947 Heaton removed the kitchen floor and in doing so discovered a small section of original flooring. Heaton installed the joists and floorboards in January 1948. He poured cement along the kitchen's back wall and around the fireplace for the floor joists to rest on, and also braced the staircase. Unlike the time he replaced the floor in 1926, this time an effort was made to make the replacement floor more rot-resistant. The joists were painted with hot linseed oil and wood preservative; more sub-floor ventilation was also provided. A large rock that lay beneath the center of the kitchen floor had to be chipped down to accommodate a 6 x 7-inch concrete strip centered beneath the floor to support the new joists. Toward the end of January, Heaton began relaying the kitchen floor, completing this job in early February. In March he and Grant Heaton repeated much the same process in the parlor. The floors were replaced by the month's end. Other work in the kitchen and parlor at this time included woodwork, plastering, and painting.

No other interior work worthy of note in the fort took place until July 1950. A considerable amount of plaster had fallen from the walls of the spring room and there were signs of stone deterioration. Zion officials recommended in April that Heaton install a few drains and replace the plaster with water-resisting cement to retard capillary action and preserve the room's walls. Heaton carried out this work in July.

The other big project at the monument during this period was reconstruction of the fort's big gates. The first replacement gates were built and installed by Heaton in 1928, but these were not regarded as authentic enough. The new ones were to be replicas of the originals. In September 1947, Heaton visited a blacksmith in Kanab to make arrangements for making the big locks for the fort gates. In June 1948 Heaton prepared the lumber for the job by tonguing and grooving it with a plane. No more work was done on this job until almost a year later. In April and May 1949, Heaton built gates for both ends of the fort, using square nails in the construction of at least one of the pairs of gates. In early June he put in a new sill for the west gate. When he and three of his sons tried to hang the west gates they discovered that they didn't fit, so they had to be cut down in size. He then painted the sill timber of the west gate with old motor oil, creosote, wood preservative, and termite poison.

In mid-June 1949 the old (1928) east gates were taken down. Heaton reported in his journal, "Found the sill log almost rotted away under the door frame uprights. Cut the doorframes off about 2 inches to get [to] the solid wood. Replaced the sill timber and painted it with preservative. Bored some holes in the door frames about 12 inches up from the bottom to fill with preservative to keep out termites and rot." The new east gates were hung on March 14 and 15 with the help of Heaton's teen-aged sons, Dean and Lowell. Heaton cemented around the frames of the gates, reset the top and middle hinges, and installed new locks. In October 1950 Heaton removed and replaced the deteriorated catwalk near the fort's west gates.

West Cabin (1950)

The west cabin was in dire need of stabilization work by the end of World War II. In November 1946 Heaton noted in his journal, "The west cabin is again settling on the southwest corner, causing a large crack to come over the west door and west end of the building." Heaton thought water from the seep spring behind the west cabin was causing the building to settle. He called the problem to the attention of visiting NPS officials in May 1948. In early April 1950, Zion's Supt. Charles J. Smith requested ruin stabilization funds for the west cabin from the regional office and submitted an outline of proposed work. The sinking of the cabin's southwest corner had indeed caused a large crack from floor to ceiling on the west side of the cabin. An old spring developed by early settlers on the hill above the building had become choked with weeds and grass, causing water to spread downward toward the cabin, Smith reported. Moisture under the foundation was causing slippage of the shale beneath the

cabin. Smith's plan was for Heaton to install gravel drains to divert the spring water away from the cabin and to pull the cabin wall back into place with steel rods and turnbuckles. After the wall was back in place, Heaton was to reinforce the foundations with concrete footings and repair the cracked portions of the wall. It is presumed the funds for materials were received, for Heaton carried out the work as outlined by Smith from April to June 1950, at times with the help of four of his sons. Heaton then relaid those portions of rock walkway that had been removed in front of the cabin prior to stabilization work.

Fort Balconies and Interior Doors (1950-1953)
In September 1950 the fort's north balcony was in such poor condition that Heaton installed three braces beneath it as a safety measure. Regional Director Tillotson later transferred $500 of ruins stabilization funds to Pipe Spring to enable additional work to be done on the fort's balconies during fiscal year 1951. The primary project undertaken in 1951 was to reinforce both balconies. With stabilization plans provided by the regional office, Heaton began work on the balconies on May 3 and completed the job on June 26, 1951. Heaton spent much of early 1952 painting exterior woodwork. Light gray paint was used on most of the exterior wood except for the porch balusters, which were painted green. The porch railing was painted red.

Spring Room (1953)
In the spring of 1953, Heaton worked on furnishing the fort's spring room (with milk and cheese racks and a cooling trough for milk) and on replacing worn out flagstone flooring. Heaton carved a trough out of a log, which was installed in the spring room on June 23. Since the Woolley period, when all the spring water was redirected outside the fort, no water had flowed into the spring room. On July 18 Heaton diverted some of the spring water back into the spring room where it then flowed through the wooden trough. The room was now restored "as it was when the fort was first built in 1870," Heaton reported in his journal. (This was not entirely true, since prior to the Woolley period, the spring had flowed in an open trench across the courtyard. Heaton installed a new cistern and pipe system beneath the courtyard that conveyed water to the spring room.) The monument's custodian continued to work on furnishings for the room, working on the milk racks in November and December 1953. During the fall of 1953 a Kanab cabinetmaker made reproduction doors of native pine for the fort's interior, based on an original door that Heaton took him. In November and December, Heaton replaced four doors in the fort, which he had made 20 years earlier, with the new doors.

Fort Stabilization (1957)
In March 1953 NPS officials reported that the southwest corner of the fort's lower building needed reinforcing. A crack had developed from ground to roof and the wall leaned at the top about three inches. No action was reported until December 1956 when an NPS engineer inspected the fort's foundation at the southwest corner. The engineer checked the soil there with a seven-foot auger, hitting shale at a depth of about two feet. At five feet, the soil was quite dry and hard; at about seven feet he hit water that came up in the hole at a rate of five feet in two hours. In February 1957 the engineer returned to make further tests. The drilling showed that the material to a depth of 17 feet was largely reddish-brown clay with varying moisture content. It was thought that at a depth of about eight feet the material would support a spread footing for the building corner, but the regional chief of operations decided that constructing the footing at a depth of six feet was adequate. He also suggested providing tile drains beneath the new footing surrounded by crushed gravel.

Heaton bought 40 bags of cement from Kanab Construction Company then arranged for his brother Grant Heaton to haul three loads of gravel to the monument. Heaton also drained the fort ponds so water would drain out from under the building. Two laborers were hired and stabilization work began April 2, 1957, overseen by the engineer. On the first day, workmen excavated three 2 x 5 x 6-foot holes around the fort's southwest corner. No water was encountered, leading Heaton to speculate that the seepage encountered during testing had come from the ponds,

which were now temporarily empty. A fourth hole was dug, then reinforced concrete footings were poured. Stabilization work was completed on April 9.

Fort Restoration (1959)
From the perspective of historic design, the most significant restoration work on the fort was accomplished in 1959. This work reversed architectural changes made to the building ca. 1885 to return it to its original appearance. Restoration work on the fort began on January 12, 1959. Local sandstone from Heart Canyon was used to infill the fort's windows and an exterior doorway on the upper level, lower building. Scaffolding was erected on January 16 and 17, and work began. At times the weather was so cold the mortar froze to the trowel. On January 22 NPS officials visited the monument to inspect work progress. The last opening was rocked up on January 29. Mud stain was used to "age" the new infilled areas and gun ports were created during the infilling work.

A wide range of other work was accomplished in 1959. Replacement work on deteriorated parlor and kitchen floors began on January 30, 1959, and was completed in April. This was the third time these floors had been replaced, the most recent being 1948. (As before, the moisture problem was created by the historic spring flowing beneath the fort.) Five screened, external vents were added beneath the floors to reduce moisture problems; all materials were treated to resist moisture, decay, and termites. Other work done this year included restoring the spring flow to the spring room; repair of interior walls and woodwork, and interior painting. The stone walls of the fort, cabins, retaining walls, and fort ponds were repointed.

The East and West Cabins (1957-1963)
In March 1957 Heaton rebuilt the chimney of the east cabin and patched roofs of both cabins with clay that he wetted down with the fire pump and hose. In late July laborer Carl Johnson worked on the east cabin foundation, putting in a concrete footing and cementing up cracks. In November Johnson and one of Leonard Heaton's brothers, Kelly Heaton, removed deteriorated mud mortar from the wall of both cabins and repointed the stones with cement. They then stained the walls with clay to obscure the "newness" of their work. The two-week job was completed in early December 1957. That month Heaton removed planking from the west cabin interior doorway so that he could use both rooms of the west cabin for a museum display.

In late April 1959, the east and west cabin foundations were treated with a termite repellant ("pendane"). During the fall a great deal of work was done to outfit both cabins with a mixture of reproduction and authentic furnishings for display purposes. Other than routine maintenance, no other work was done on the cabins in the early 1960s. In May 1962 concern for the security of collections in the cabins led to the erecting of barriers, which allowed visitors to view displays from just inside the doorways. During November 1963, the roof of the west cabin was patched with mud and bark.

Reconstruction, Restoration, and Preservation Work, 1964-1979
Work during this period was performed under the administration of Hugh H. Bozarth (1963-1967), Ray Geerdes (1968-1970), and Bernard G. Tracy (1971-1979).

The Fort (1965-1979)
In January 1965 a handrail was installed on the interior stairway leading from the kitchen to the upper story of the fort as a safety measure. During the summer some plaster work on the fort’s interior was repaired under contract. Other than routine maintenance, no other work on the fort was undertaken until the fall of 1969. During heavy rains in late August and early September 1969, a number of leaks in the fort roof were noticed. During October

1969, a contract was awarded to Dixie Lumber and Hardware of St. George to reshingle the fort with hand-split shakes. Work began on October 27 and was completed in early November.

Only routine maintenance was performed on the fort from 1970 until 1976. In July 1974, Historical Architect Rodd L. Wheaton made his first visit to Pipe Spring to inspect the historic buildings. After a tour with Joe Bolander, Wheaton inspected the fort and associated cabins. His later report commented on a host of problems linked to damp penetration of the fort's exterior walls due to seepage, particularly the rear (north) wall. He agreed with Tracy that the wall needed to be trenched at the exterior, infilled with gravel, and waterproofed. Wheaton observed that past repairs to the exterior had been made with concrete mortar, incompatible both in appearance and chemically with the original lime mortar. He advised that as concrete mortar deteriorated, it be replaced with matching lime mortar. Although the existing wood shake roof was sound, Wheaton recommended that when it needed replacing, wood shingles be used; shakes were not historically appropriate. Regarding the fort interior, he made recommendations regarding the removal of deteriorated plaster and other repairs. Wheaton evaluated the condition of the east and west cabins as "excellent."

In early 1976, the List of Classified Structures survey of historic buildings was completed at Pipe Spring by Lance R. Williams and Lance J. Olivieri. Excessive water seepage at the northwest corner of the fort had long been a concern to monument administrators and historical architects but the problem appeared to worsen over the summer of 1976. In May 1976, the consulting firm of Conron and Muths, Restoration Architects, from Jackson, Wyoming, was engaged to research the problem and make recommendations for treatment. On November 15-16, 1976, an emergency stabilization conference was held between Thomas B. Muths, Rodd Wheaton, Bob Heyder, and Bernard Tracy at Pipe Spring. A work crew from Zion was put at their disposal. A decision was made to immediately remove the floors of the parlor and kitchen in order to expose the floor joist system and ground beneath. This increased the rate of evaporation of excess water beneath the floors. In attempting to remove the plaster from the interior face of the north wall to expose the original rock wall, workers discovered a layer of concrete. It was quickly learned from speaking with former Custodian Leonard Heaton that the north wall had a two-inch layer of concrete beneath a thin layer of plaster. Enough of the hard concrete was chipped off to expose the rock wall and mortar joints for inspection. The rock was discovered to be soft and 100 percent water saturated; exposed mortar was in a totally plastic state, Muths later reported. While there was a critical need for exterior work to be performed along the north wall, no funds were available for the work. Meanwhile, an attempt was made to develop drainage inside the fort that would permit free flow of water from the back wall through the building and out its south side.

During 1977, the seepage along the fort's northwest wall subsided, possibly aided by a drought that year. Conron and Muth's report on the problem was received in November 1977 (Masonry Stabilization Project, Phase I). During 1978, Conron and Muth prepared construction documents to correct the seepage problem (Phase II). They completed this work in either late 1978 or early 1979. Their report was reviewed by Tracy and Heyder in March 1979 and by Rocky Mountain Region staff in May. Repairs of existing damage and preservation work had to await funding. Work was programmed for fiscal year 1979, expected to cost $98,000. Stabilization work would not be undertaken until 1980. The fort's parlor and kitchen continued to be closed to the public during 1977, 1978, 1979, and much of 1980.

The East and West Cabins (1964-1971)
In May 1964 the roof of the west cabin was cemented (in place of mud) to better withstand strong winds. During the spring of 1965, more earth was applied to the roofs of both buildings to replace dirt washed away by rain. During March 1966, earth was again added to the roofs of the cabins to prepare for a stabilization treatment. In April 100 gallons of a synthetic resin called "Pencapsula" was applied to the earth roofs of the cabins. While some

of the earth washed off the roofs, water did not soak through them. This offered better protection to the cabins and artifacts exhibited in them.

The next mention of the cabins needing more than routine attention was made during the winter of 1968-1969. Heavy snow that winter aggravated erosion problems on the roofs of the cabins, which Superintendent Ray Geerdes reported to regional office staff as "storm damage." He advised that the roofs be completely rebuilt during the summer of 1969, using Neighborhood Youth Corps (NYC) labor force to significantly reduce expenses. Work on the project began in July, with about 600 cedar posts gathered from the Johnson Canyon area. Mel Heaton and David Johnson oversaw and worked with a NYC crew of 10 Navajo boys to cut, trim, and haul the logs to Pipe Spring. Work rebuilding the west cabin roof began in late August 1969, with the crew of boys doing most of the work. The cabin's roof was entirely removed and the poles were replaced with new cedar poles and coated with tar. A material called "Plomose Aggregate" was placed on top of the pole structure. Finally, a layer of Chinle clay was added to the roof.

A severe flood in August 1971 resulted in water damage to the west cabin when from water flooded through the walls of the cabin and into the structure. While no reports of repairs have been located, it is presumed repairs were carried out.

Reconstruction, Restoration, and Preservation Work, 1980 to 2000

Work during this period was performed under the administration of William M. ("Bill") Herr (1979-1989), Gary M. Hasty (1989-1993), and John W. Hiscock (1994 to present).

The Fort

The fort's parlor and kitchen floors, removed in late 1976, had still not been replaced by the time Supt. Bill Herr arrived in April 1979, nor had the moisture problem along the north wall been addressed. NPS officials visited the monument on May 18, 1979, to make plans for the upcoming stabilization work to be performed that summer. On April 3, 1980, a contract for $80,700 was awarded to Hall Brothers of Hurricane, Utah. Work began in the fort on May 5 and was completed on September 5, supervised by former superintendent Bernard Tracy. Work under the contract required removal of all cement mortar, repointing the joints with soft lime mortar, and replacing or refacing seriously deteriorated sandstone. In addition, an underground drainage system was installed to divert the flow of water from underground fissures. (This also required removal of the earlier drainage system installed by Leonard Heaton in the winter of 1947-1948.) The new drainage system contract required that 1) the fill areas adjacent to the north, east, and west walls be excavated to the bottom of the footings; 2) bentonite waterproofing be installed along the foundation; 3) new six-inch drain tile be installed along the north, west, and east walls; 4) two new 4-foot round concrete drainage basins be placed at the northwest and northeast corners of the fort, about one foot below the drain tile; and 5) two new eight-inch PVC drain/sewer pipes be installed along an existing line to the spring pool. The final inspection and close-out was made on September 5, 1980.

During 1981, Conron and Muths made a study to determine the color of paint originally used on the fort. The study determined that the fort's exterior woodwork, except for doors and doorways, was originally unpainted. The earliest paints applied were by former Custodian Leonard Heaton, referred to in the report as the "green/red/cream" phase, with later phases being an "all white" scheme. The study found that the subdued colors used on room interiors were most likely similar to those originally used. As the original exterior woodwork was deteriorating, it was decided that it needed to be either painted or treated with preservative. While the study recommended the green/red/cream phase be used (considered "historic" even though it originated under Heaton), the decision was made to retain the white color scheme.

In the summer of 1982, the fort's catwalk was rebuilt again. Railings and balusters on the balconies were replaced as needed while others were stripped and repainted. During late summer 1983, the fort was reroofed. The old cedar shakes and felt underlayment were stripped off, replaced with red cedar shingles. Factory assembled ridge caps were installed at the ridges. Gutters were replaced and rain barrels installed to collect the water. In addition, a major repointing project on the fort walls was undertaken in 1983. In late November that year, work began on replastering all interior ceilings and walls, completed in the spring of 1984. That year the repointing of the fort's courtyard walls was also completed. In 1987 the fort's southeast chimney was completely rebuilt.

In 1994, a leak in an old pipeline to the spring room was contributing to deterioration of wall foundations. A new pipeline was installed to remedy the problem. The following year an investigation of water leaching problems in the fort was conducted, some masonry work was carried out, and exterior trim was repainted. In 1996 gutters and downspouts were installed on the south elevation of the lower building and the north elevations of the upper building to reduce basal erosion and the amount of moisture against foundation walls. Repointing work was also done on the fort that year. In 1997 deteriorated porch decking on the upper building's balcony was replaced with 5¼-inch wide, ½-inch thick, tongue-and-groove pine boards. A lightning protection system was installed on upper and lower buildings of the fort in 1998. The spring room and cheese room (nos. 1 and 2) were replastered in 1999. During 2000, the fort was given a new roof, replacing the 1983 roof. New cedar shingles were treated with fire retardant; underlying 1 x 6-inch pine sheathing was repaired or replaced as needed; and lead step flashing was installed around the chimneys. Also this year, because the earlier deck had warped, porch decking on the balcony of the upper building was replaced again with 5¼-inch wide, 7/8-inch thick tongue-and-groove pine boards. Considerable effort was also spent in January 2000 trying to discover why the historic spring had ceased to flow since June 1999; excavation work in the central courtyard did not impact the fort itself.

The East and West Cabins

Little work on the east and west cabins was reported during Supt. Bill Herr's tenure. Termites were discovered in 1983 and exterminated that year. In 1986 Herr reported that the exterior walls of the east cabin were repointed. At that time the walls of the west cabin were still held together with Portland cement mortar.

No other major work on the cabins was done until six months after Herr's departure, during the summer of 1989. Rehabilitation work was originally planned for both the west and east cabins, but the west cabin used all the available funds, thus no work was done on the east cabin. From late June through August, the Bryce Canyon preservation assistance team assisted Pipe Spring staff with rehabilitation work on the west cabin. The archeologist who excavated the east room of the west cabin advised the monument that an archeological survey was needed around both cabins. Rehabilitation work on the west cabin included replacing the bentonite roof with built in drainage and peeling of existing split log sheathing, relaying of the back stone wall, and installation of a drainage system. Termites were also discovered and exterminated. The funding for the rehabilitation work ran out before repointing could be done on the west cabin's walls. The cabin remained closed to the public for the remainder of the year and into 1990, awaiting funding to pay for repointing. While $20,300 was provided to complete the rehabilitation work in fiscal year 1990, it was ultimately used instead to pay for an archeological investigation in and around both east and west cabins. In 1995 the bentonite clay covering applied earlier to the west cabin was removed and replaced with a local mixture of clay and sand. The masonry of the west cabin was repointed in 1996.

Preservation work in 1997 and 1998 focused on the east cabin. The cabin's rear (west) wall had suffered water damage from infiltrating groundwater. The area behind the wall was excavated and a moisture barrier and drainage system was installed along the rear wall. Masonry was repaired and repointed. The dirt floor was also excavated and replaced with a new earthen mixture closer in composition to the original historic floor. A new roof

was constructed, described earlier. In 1997, nonhistoric flagstone walkways in front of both the east and west cabins were rebuilt so that rainwater would drain away from the cabin.

Ponds
In 1998, in an attempt to repair the ponds' deteriorated masonry walls and earthen bottoms and to address worsening leakage problems, the historic ponds were drained, cleaned and entirely repointed. A new drainage system was installed in the west end of the west pond. Severely damaged portions of the walls were reinforced and rebuilt. When the ponds were refilled there was a problem with leakage. In 1999 the ponds were drained again, partially repointed, and the bottom resealed with clay, correcting the problem.

Integrity
In order to qualify for listing on the National Register, historic resources must now possess integrity of location, design, setting, materials, workmanship, feeling, and association. It is important to note that such requirements did not exist at the time Pipe Spring was made a national monument, nor when its early managers sought to restore and preserve its historic buildings. Three of the National Register's qualities of historic integrity have eroded to some extent during the site's history and warrant discussion below: materials, workmanship, and setting.

As is evident from the above chronology, a great deal of reconstruction, restoration, and stabilization work has been performed on the historic buildings at Pipe Spring National Monument since 1923. The resources were in such a deteriorated condition at their time of acquisition that considerable original material had been completely lost, particularly with regard to the east and west cabins. Other materials, such as plasterwork and woodwork in the fort, were so deteriorated that they required eventual replacement, either partial or total. Beginning in the 1920s, Park Service officials used the best expertise and materials at their disposal to restore or reconstruct the buildings to what was thought to be their original appearance. Over the ensuing years and as architectural research and restoration techniques improved, monument superintendents have often conscientiously corrected earlier "mistakes" brought to their attention by replacing incorrect materials with more appropriate ones, or by replacing missing architectural elements with reproductions. While intention has always been to restore the buildings to their original appearance, the cumulative effect of these changes has been to introduce a number of replacement materials and to impact the degree of original workmanship. The work at Pipe Spring, however, mostly performed in the 1920s and 1930s, must be viewed within the context of the times, when the rigorous standards of physical integrity applied today were virtually unheard of. Reconstruction and restoration work has only been undertaken when needed and with professional guidance.

Integrity of setting is another quality that has experienced a notable degree of change since the district's period of significance. As the monument's 1997 Cultural Landscape Inventory documented, the landscape has gone through many "lives" since the late 19th century when it operated as a Church tithing ranch. The setting was first typical of ranching and round-up activities, replete with mud-ringed watering holes, troughs, corrals, and fences. Soon after it became a national monument it was made "presentable" by the removal of such landscape features, both unattractive and hazardous to tourists. Two new reservoirs were constructed in the late 1920s southwest of the fort to irrigate pastures and gardens cultivated by the custodian's family. During the 1930s, an area southwest of the historic district was made a site for a Civilian Conservation Corps camp. With the help of CCC enrollees, an area southeast of the historic district was then developed for camping and picnicking; huge numbers of trees were planted and irrigated. Throughout this period, however, the effort was made to keep all development activities below the old monument road (shown as the "old state highway" on the accompanying site map) in order to preserve the historic setting of the fort. Today, the CCC camp site, old campground and picnic area, and additional reservoirs are all gone, and native vegetation has been restored to these areas. Beginning in the 1960s into the 1980s an effort was made to "restore" the historic landscape in areas surrounding the current district

through the planting of gardens, fruit trees, shade trees, and livestock corrals. While based on limited historic documentation, the reconstructed landscape enhances the district's setting. Still, it is too "green and clean" to approximate what was there in the 1870s or 1880s. The only two reconstructed features within the boundaries of the historic district are the telegraph line and east cabin corral complex. Both have historic precedent and enhance the buildings' setting.

On the other hand, the much larger landscape, particularly that viewed by the visitor looking south, west and north of the historic district, is largely unchanged. One can still experience and appreciate the remoteness of this early Mormon outpost on the Arizona Strip. Some distance to the east of the monument are some housing developments owned by the Kaibab Paiute, and - just in the last few years - a small gas station and convenience store opened at the juncture of Highway 389 and the access road to the monument. These developments are sufficiently far enough away not to negatively impact the historic district's setting.

The historic district's primary resources - its buildings, ponds, stone walls, quarry trail, and two archeological sites - retain a high degree of integrity of location, design, feeling and association with the historic period. While the qualities of materials, workmanship, and setting have been impacted over the last century, the resources still retain enough overall integrity to remain listed on the National Register of Historic Places.

Item 8
Summary Statement of Significance
The historic resources included in the historic district at Pipe Spring National Monument are eligible for the National Register of Historic Places under the areas of exploration/settlement, social history, women's history, and communications. The district is eligible for listing at the national level of significance under National Register Criterion A, for its association with events that have made a significant contribution to the broad pattern of the country's history.[15] After the Pipe Spring's first white claimant was killed by Indians, it was purchased by the Church of Jesus Christ of Latter-day Saints to realize a number of critical objectives: to construct a fort for the protection of Mormons colonizing Arizona Strip lands, to provide a secure location where a telegraph station could be set up (the first to be established in the Arizona Territory), and to establish a Church-owned cattle ranch, with livestock tithed by its members. It also served as an important refuge for Mormon polygamists, who fiercely resisted federal government efforts to stamp out a practice believed by them to be divinely ordained. During the period of heaviest prosecution of polygamists, the fort sequestered a considerable number of plural wives and their children. The period of significance dates from 1863, when the site was first occupied by Euroamericans, to 1895, when Church ownership of the property ended and the ranch passed into private ownership. This historic site was proclaimed a national monument in 1923.

Ethnographic and Historical Background
Native American Occupation, pre-1776
"Pipe Spring" (as it was named by the Latter-day Saints), along with other springs in the immediate area, was used by indigenous peoples long before European or Euroamerican explorers and colonists discovered it. Prehistoric cultural resources appear in all portions of the monument and consist of ceramic and lithic scatters, charcoal deposits, and structural remains akin to what archeologists classify as the Virgin/Kayenta Anasazi (ca. AD 1100-1150). These materials appear to be related to prehistoric structures in the area, including the large unexcavated pueblo of 22-40 rooms located immediately south of the monument, all of which are within the boundaries of the Kaibab Indian Reservation. Prehistoric petroglyphs are also found in and adjacent to the monument.

The arid region of southwestern Utah, southern Nevada, and northern Arizona was territory traditionally inhabited by the Southern Paiute by AD 1150. Prior to the arrival of Europeans to North America, small bands of semisedentary people gathered the natural plants and hunted the fauna of this ecologically diverse region. Pine nuts were especially valued as a dietary staple. The Southern Paiute practiced small-scale horticulture, planting and irrigating crops of corn, beans, and squash near permanent water sources. Their lives depended on a wide range of seasonal resources in different ecozones. Considerable distances between these food sources demanded great mobility. Water was then, as now, a key resource available at only a few places, and these places governed band movement and territories.

The Kaibab Paiute are one of a number of distinct Southern Paiute bands that have inhabited the Arizona Strip. They believe the area to be their ancestral home, their mythology holding that the Kaibab Plateau was their place of origin. According to oral history accounts collected in 1932 by anthropologist Isabel T. Kelly, the southern boundary of Kaibab Paiute traditional territory extended from the junction of the Paria and Colorado rivers downstream until just beyond Kanab Creek Canyon. The western boundary extended northward crossing the Virgin River just east of Toquerville and ended at the Kolob Plateau. The northern boundary proceeded from that

[15] The site may also be eligible under other areas of significance, including archeology (historic and prehistoric), under Criterion D. Contexts for other areas have not been prepared and would require additional research.

point to the Paria River, which formed the eastern boundary. A conservative estimate of their traditional territory is 4,824 square miles. Events of the 18th and 19th centuries would irrevocably impact the extent of their territory and way of life, and pose a serious threat to their survival.

Spanish and Euroamerican Exploration and Contact

The time period from 1776 to 1847 is marked by early Spanish and later Euroamerican contact with the Southern Paiute through their exploration and economic activities in the area. The 1776 expedition led by two Franciscan priests, Francisco A. Dominguez and Silvestre Velez de Escalante, through northern parts of the Southern Paiute territory provided the first historical references to the native peoples. The explorers were attempting to find a northern route that would connect Santa Fe with Monterey. On the return to Santa Fe, the Spanish expedition crossed the Arizona Strip. On the Pilar River (now called Ash Creek) near its junction with the Virgin River 25 miles below Zion Canyon, Escalante noted the Indians' cultivation of corn in irrigated fields located on small flats along the river bank, thus documenting Southern Paiute agricultural practices. While the expedition failed to accomplish its mission, it gained much knowledge of the Great Basin region. It was later followed by excursions into the region by fur trappers, including Jedediah Smith (1826) and William Wolfskill and Ewing Young (1830). The 1849 California gold rush brought large numbers of prospectors and others traveling through Southern Paiute territory.

Prior to the arrival of the Latter-day Saints in 1847, Southern Paiute bands were impacted by the slave trade. By the early 17th century, Spanish colonies in what are now northern New Mexico and southern California had institutionalized slavery and other forms of servitude. Ute and Navajo slave raiders preyed on Southern Paiute bands. Spanish expeditions and American trappers repeated this pattern. Women and children were the most sought after as captives. Feelings of enmity harbored by the Kaibab Paiute toward these tribal groups is often explained today by reference to such past raiding activity. Some documentation suggests that Southern Paiute bands responded to the threat of enslavement by retreating from heavily traveled areas, particularly the Old Spanish Trail that opened as a commercial route in the 1830s. At the same time, the slave trade may have forced abandonment of ecologically favorable areas, inhibiting the expansion of horticultural activities among the Southern Paiute, while increasing their dependence on hunting and gathering as a way of life. Spanish colonization also introduced diseases that brought about a dramatic decline in Indian population prior to 1850.

The Church of Jesus Christ of Latter-day Saints

Joseph Smith, Jr., born in Vermont on December 23, 1805, was the organizer and first president of the Church of Jesus Christ of Latter-day Saints. His father moved the family to New York when Smith was about 10 years old. They first moved to Palmyra, then moved four years later to Manchester, both in Ontario County. This region of New York was so aflame with religious revivals and Pentecostal beliefs at the time as to have been called "The Burned-over District." According to accounts by Joseph Smith, Jr., in 1820, at age of 14 and during a period of inner conflict over which religious sect to join, Smith experienced a mystical vision of God and Jesus Christ. He asked them which religious sect he should join and was told to join none, that they were all corrupt. According to Smith's later writings, beginning in 1823 he received a series of visits from an angel named Moroni, who spoke to him of a hidden book, written upon gold plates. With the book would be found a physical device to be used in translating the ancient text. That year, Smith located the plates buried in a hill near the village of Manchester, but was directed by Moroni not to disturb them for four years. Smith later wrote that on September 22, 1827, he was instructed by Moroni to take the gold plates and to translate them into English. During this period Smith is said to have shown the plates to 11 men, including two that acted as scribes during their translation. Each man later signed testimony attesting to the fact they had seen and held the plates. After the translation work was completed, Smith later wrote, the plates were returned to Moroni and have not been seen since.

Joseph Smith's translation of the gold plates was published in 1830 as *The Book of Mormon.* The first steps toward organization of the Church took place that year, with Joseph Smith designated a "Seer, Translator, a Prophet, an Apostle of Jesus Christ, and an Elder of the Church." Three years later the First Presidency was organized with Smith named president of the Church.[16] In 1835 the Quorum of the Twelve Apostles, next in authority to the First Presidency, was organized.

Among the divine revelations reportedly received by Joseph Smith was one regarding plural marriage. Plural marriage was believed by Smith to be a prerequisite for godhood, the highest level of heaven one could attain in the celestial kingdom. Smith privately advocated plural marriage among his followers during the 1830s and 1840s, calling such "celestial marriages" part of "the most holy and important doctrine ever revealed to man on earth." Smith did not formerly dictate the plural marriage revelation until 1843, when it became part of the Church's official *Doctrine and Covenants*, Section 132. His first wife Emma, however, vehemently opposed the practice, and later took part in the organization of the Reformed Church of Latter-day Saints, which rejected the principle of plural marriage. According to official Church records, Joseph Smith took 27 plural wives, most under the age of 20.[17] All his plural marriages were secretly performed, since Emma so strongly opposed them. While he at first publicly denied the practice of plural marriage, privately (among Church followers) Smith actively encouraged it. By 1843, word of the Mormon practice of plural marriage spread in Nauvoo, Illinois, inflaming "gentile" passions against the Mormons. Threats and acts of violence began to occur. Finally, on June 27, 1844, Joseph Smith and his brother Hyrum were murdered by a mob at Carthage, Illinois.

Brigham Young (also born in Vermont) succeeded Smith as Church president at the age of 34. Young also practiced polygamy, taking his first plural wife, 20-year old Lucy Ann Decker, in 1842 when he was 41 years old. In 1843, about four months after Smith dictated his revelation on plural marriage, Young married two more women on the same day, aged 19 and 41.[18] Less than two years after the murders of the Smith brothers, Young and his group of followers left Nauvoo in February 1946, fleeing religious persecution. (So strong was this sense of persecution, the migration of Mormons from Nauvoo to the Great Salt Lake Valley was - and still is - referred to as the "Exodus," the name of the Old Testament book that tells of the Israelites' flight from their Egyptian oppressors.) In the 23 days just prior to their flight westward, Young married 11 more women, ranging in age from 17 to 42. By 1852, he had married at total of 22 times with two of the wives dead and one separated from him. The Mormons headed for the Great Basin with the main party arriving at the Great Salt Lake Valley on July 24, 1847.[19] This region was then part of Mexico. With no official Mexican presence closer than Santa Fe and Tucson, many Latter-day Saints may have dreamed of establishing a new empire in the Great Salt Lake Valley.

The United States declared war on Mexico on May 13, 1846. Its victory in the conflict and the Treaty of Guadalupe Hidalgo, signed February 2, 1848, resulted in Mexico's relinquishment of all claims to Texas above the Rio Grande, an addition of 1.2 million square miles of territory to the United States. While this put an end to any hopes the Mormons may have had for an independent empire, they wrote a memorial to the U.S. Congress in December 1848 for creation of a territorial government. Without waiting for a response to the petition, the new immigrants undertook to create a provisional government for the "State of Deseret," electing Brigham Young as

[16] The First Presidency consists of the President and his counselors.
[17] His biographer, Fawn M. Brodie, documented 49 plural wives.
[18] In an 1859 interview by Horace Greeley of the *New York Tribune*, Brigham Young referred to his older plural wives as "old ladies whom I regard rather as mothers than wives, but whom I have taken home to cherish and support."
[19] One of the first Mormon immigrants to enter the Salt Lake Valley was Erastus Snow, who arrived in advance of Brigham Young on July 21, 1847. Snow would later figure prominently in Arizona Strip history.

their governor. On September 9, 1850, President Millard Fillmore signed a bill creating the Territory of Utah, renaming it after the Ute Indians. Young was retained as governor until 1857.

Not long after the arrival of Brigham Young and the Latter-day Saints to the Salt Lake Valley, parties of men were organized and sent out to explore other regions. On November 23, 1849, one such party of 50 men set out under the leadership of Apostle Parley D. Pratt to explore southern Utah. By January 1850, Pratt's party had reconnoitered the country as far south as the mouth of the Santa Clara River, beyond the rim of the Great Basin. While Mormon immigration to Salt Lake Valley went uncontested, resistance by native peoples began as soon as the colonizers headed south into the Utah Valley in 1849. The Walker War of 1853-1854 was precipitated by Mormon occupation of Ute lands. The war alerted Church leaders that a more forceful Indian policy was needed. Five Indian missions were quickly dispatched between 1854 and 1856, all located on important trails within what were called the "outer cordon" colonies.

Mormon settlers considered it their religious duty to influence the native peoples. They lived among Indians, baptized them, gave them Mormon names, and in some cases married them. By the end of 1858 only one mission survived, the Southern Indian Mission in southwestern Utah. It served as a base for exploration, colonization, and Indian control. Ironically, at the same time indigenous peoples in the Utah Territory were beginning to reel from the effects of Mormon colonization, the Latter-day Saints themselves felt their own way of life under attack by the government of the United States.

In 1856 President Brigham Young oversaw the formation of the Express and Carrying Company (also known as the Y.X. Company or the B.Y. Express Company). This business was the largest single venture undertaken to date by the Mormons in the Great Basin. It was designed to provide way stations for handcart companies and other immigration, to carry the United States mail between the Missouri Valley and Salt Lake City, and to facilitate the movement of passengers and freight between Utah and the East. In 1857 Anson Perry Winsor, an important figure in the history of Pipe Spring, was appointed to work for this company as wagon master. Nearly all Mormon villages sent men to assist with the enterprise. The vast majority of them were called to work as missionaries. Their primary concern, of course, was the establishment of new settlements.

On a trip to the Missouri River for Brigham Young's express company, Anson P. Winsor arrived at Fort Leavenworth, Kansas Territory, on May 1, 1857. The year 1857 was marked by a serious political crisis in Utah, one that would hasten a movement of Mormons into the Arizona Strip and other areas far distant from Salt Lake City. In June 1857 President James Buchanan appointed a new governor for the Utah Territory. This move was designed to displace Church leaders with politicians closely tied to authority in Washington, D.C. An order directing troops to Utah was issued June 29, 1857, by the Commanding General of the Army and was justified as follows:

> The community and, in part, the civil government of Utah Territory are in a state of substantial rebellion against the laws and authority of the United States. A new civil governor is about to be designated, and to be charged with the establishment and maintenance of law and order... [military action] is relied upon to insure the success of his mission.[20]

At the same time the new governor was appointed, the federal government cancelled all contracts with Brigham Young's Express and Carrying Company. The activities of this company in carrying out the mail contract and in performing other economic chores for the Church figured prominently among the factors that led to the conflict

[20] House Executive Doc. No. 2, 35th Congr., 1st sess., 21; cited in Arrington, *Great Basin Kingdom*, 171.

with the federal government. The desire of non-Mormons to impose national institutions and customs on Mormons (particularly with regard to the practice of polygamy) also played a role in the conflict.

The first of 2,500 federal troops left for Utah Territory from Fort Leavenworth under the command of Colonel Albert Sidney Johnston on July 18, 1857. The entire force committed to the expedition amounted to 5,606 men. "Express missionary" Winsor learned of the military action, known as the "Utah Expedition," while at Fort Leavenworth, and alerted Brigham Young of the impending advance of the U.S. Army. Winsor sent a letter via Abraham O. Smoot who delivered the letter to Young on July 24, 1857, at Big Cottonwood Canyon, located near Brighton, Utah, about 20 miles southeast of Salt Lake City. A reported 2,587 persons were gathered there that day to celebrate the 10th anniversary of the Latter-day Saints' arrival in the Valley of the Great Salt Lake. Thus Young had many months to take defensive action against the expected arrival of federal troops. The Utah Territorial Militia, consisting of about 3,000 men, was mustered into full-time service. While they were instructed to "take no life," the militia considerably slowed the advance of troops through implementation of a "scorched earth" policy, destroying resources ahead of the Army's advance.

The advance of federal troops on Utah was considered a threat and Utah Mormons considered it continuing "gentile" persecution.[21] While the troops were still en route, a tragic event occurred in southern Utah. On September 11, 1857, Mormon militiamen killed over 100 men, women, and children who were part of a group of Missouri and Arkansas emigrants; the incident is known as the "Mountain Meadows massacre." While the massacre involved many individuals, John Doyle Lee was the only person brought to trial much later. An all-Mormon jury found him guilty and sentenced him to death, a sentence carried out on March 23, 1877.

On September 15, 1857, Brigham Young declared martial law and proclaimed, "*Citizens of Utah* - We are invaded by a hostile force." Federal troops, in fact, were still en route. As he made preparations to defend the Kingdom, Young ordered Latter-day Saints in Idaho, Nevada, California, and other western states to abandon their settlements to "come home to Zion." The same directive was issued to missionaries scattered throughout the world, resulting in the return of several hundred. In October 1857 Anson P. Winsor was sent to Echo Canyon, east of Salt Lake City, to make fortifications and to guard the area against federal troops. In the spring of 1858, Winsor was called back to Echo Canyon with 300 men to relieve troops who had been on duty there the previous winter. Outright war was averted when negotiations held in February and March 1858 led to an agreement that Brigham Young would relinquish his governorship of the Utah Territory. Alfred Cumming, a federal appointee from Georgia who had served as superintendent of Indian Affairs on the Upper Missouri, arrived to take over the territorial government on April 12, 1858.

The Move South

The military actions of the federal government and its subsequent takeover of official government functions by "gentiles" reinforced the Latter-day Saints' long standing sense of injustice and oppression. Just prior to Cumming's arrival, Brigham Young called a "Council of War" in Salt Lake City on March 18, 1858, where he announced his plan "to go into the desert and not war with the people [of the United States], but let them destroy themselves." Four days later, Young wrote, "We are now preparing to remove our men, women, and children to the deserts and mountains…" What followed has been called "The Move South." The events that follow chronicle this southern migration as it pertains to the Arizona Strip region near Pipe Spring.

Brigham Young instructed missionary and explorer Jacob Hamblin to learn something of the character and condition of the "Moquis" (now referred to as the Hopi) and to preach to them. On October 28, 1858, Hamblin

[21] Mormons use the term "gentile" to refer to non-Mormons.

and a small party of men were sent southeast from the young southern Utah settlement of Santa Clara to contact the Hopi. A Kaibab Paiute referred to as Chief Naraguts served as the party's guide through the region. Their other purpose was to determine if the Mormons could retreat to this region should the conflict with the U.S. Army become unbearable, to establish a mission among the Tribe, and to explore the region. On October 30, 1858, the men encamped at Pipe Spring. Hamblin's party is the first documented visit by Euroamericans to Pipe Spring. Their explorations revealed the general topography between the Virgin and Colorado rivers to other Euroamericans, opening the way for later colonization of northwestern Arizona. The name "Pipe Spring" was in use by the time a second Hamblin mission to the Hopi passed by Pipe Spring on October 18, 1859.

Protected by the Utah Territorial Militia (also known as the Nauvoo Legion), Mormon expansion moved quickly, occupying the richest river valleys, reducing game, and pre-empting forage and water holes. Serious friction continued between Indians and settlers as whites penetrated other areas of Utah. Between 1858 and 1868, 150 new towns were founded, and the 1850 Utah population of 11,000 grew to 86,000 by 1870.

A move to relocate the Ute on the Uintah Reservation in the 1860s led to the Black Hawk Indian War of 1865-1868. Initial fighting broke out between the Ute and the Mormons in 1865 in the Sevier Valley in central Utah. The war led the Church in 1867 to build Cove Creek Fort 200 miles south of Salt Lake City, located midway along the 60-mile stretch between Fillmore and Beaver. The fort's primary purpose was to protect the telegraph line that linked the area's settlements to Salt Lake City. The Utah Territory's last major Indian conflict, the war forced the temporary abandonment of a number of southern settlements. Ute resistance was contagious, stirring some Southern Paiute into sporadic resistance. However, no major confrontations took place between the Mormons and Southern Paiute. Some ascribe the non-combativeness of the Southern Paiute to activities of missionaries among them, most notably, Jacob Hamblin. Perhaps, more likely, they simply lacked the numbers and resources with which to effectively stave off intruders, whether Euroamerican or Indian, such as the Ute and Navajo.

The early 1860s mark the beginning of Mormon encroachment on Kaibab Paiute territory through the establishment of missions and permanent white settlements. At a semi-annual general conference of the Church held in October 1861, Brigham Young called 300 families to the Dixie Mission. Utah's "Dixie" was in the Virgin River Basin, established to produce cotton, molasses, wine, and other warm-climate crops. On November 29, 1861, a group headed by George A. Smith and Erastus Snow left Salt Lake City to colonize the valleys of the Virgin and Santa Clara rivers. The town of St. George, Utah, was surveyed and incorporated in 1861. Again on October 19, 1862, Young issued another call for 250 families to go south. Not until 1869 did federal officials open a land office in the Utah Territory. Prior to that time, Church officers supervised settlement and land distribution, issuing land certificates to settlers in both Utah and the Arizona Strip.

White settlement in the region was met at times with fierce Indian resistance, countered in turn with military campaigns. Euroamerican settlers in Arizona and New Mexico hoped that the creation of reservations in the 1860s would solve the "Indian problem" and end their war with the Apache and Navajo. For Indians, of course, white immigrants and their protectors, the territorial militias, and the U.S. Army created the problem. Pockets of Indian resistance to white encroachment persisted for decades in some cases. Displaced by years of conflict with the U.S. Army and refusing to go to their assigned reservation, some Navajo took refuge in Monument Valley and other remote locations while continuing to raid villages and livestock in southwestern Utah and along the Arizona Strip.

While a treaty between the U.S. government and the Navajo was concluded at Bosque Redondo in May 1868, it did not end hostilities along the Arizona Strip. Navajo raids continued to be a problem, particularly during the winters of 1867-1870. During the 1860s, the Mormons in the Kanab Creek area permitted some Paiute Indians to

have access to water and land for farming. In turn, these Paiute warned members of the fledgling white communities of impending raids by the Navajo, who were also the traditional enemy of the Paiute. Since both Mormons and Paiute were vulnerable to the Navajo attacks, they served for a time as mutual allies.

In September 1870 Jacob Hamblin, accompanied by Major John Wesley Powell, concluded a peace treaty on behalf of the Church with the Shivwits Paiute at Mt. Trumbull, on the north side of the Colorado River. Soon after, Hamblin and Powell embarked to Fort Defiance, New Mexico Territory, on another peace mission. At the time 6,000 Navajo were gathered there to receive their annual government allotments. Their meeting with the Tribal Council, begun on November 1, concluded on November 5 with a peaceful settlement between the Navajo and Mormons. One source reports that Hamblin wrote Erastus Snow details of the meeting in a letter dated November 21, 1870. Another source states that Hamblin returned to Kanab, Utah, with word of the treaty about December 11, 1870. (These dates are significant because the defensive fort at Pipe Spring was then under construction.) The raids on white settlements soon ended, allowing the development of existing towns and the establishment of new ones.

The Honeymoon Trail

Once peace was made with the Navajo, Mormons began colonizing along the Little Colorado River in Arizona. A ferry was established across the Colorado at the mouth of the Paria where both Jacob Hamblin and John Wesley Powell had found a feasible crossing. John D. Lee, in hiding for his role in the Mountain Meadows massacre, moved to this remote site with one of his plural wives, Emma, in December 1871. By January 1873, Lee offered regular ferry service to travelers seeking to cross the river and the place became known as "Lee's Ferry." Brigham Young issued a call that year for colonists to go to Arizona and fill the Little Colorado Mission. The missionaries - 109 men, 6 women, and 1 child - gathered at Pipe Spring, beginning the trek in 54 wagons. The wagon trail traveled nearly 200 miles, creating a rough road as it went.

Once they made the difficult crossing at Lee's Ferry, the first band of colonists had only a horse trail to follow along a steep and rugged rock crest known as "Lee's Backbone." Wagons had to follow switchbacks over a talus slope covered with sandstone blocks, then made their way southward along the base of the Echo Cliffs. Wagons continued into side canyons opening into Marble Canyon, through washes, barren hills, and across the Painted Desert until they reached Moenkopi, where they found spring water. Moenkopi was only 70 miles from Lee's Ferry, but the trek took the band 26 days, attesting to the ruggedness of the terrain. Proceeding on to the Little Colorado River, the settlers found a bleak and barren region with the riverbed nearly dry. Believing no settlement could be established in such a place, they headed back over the route just traversed.

Still, the road had been opened to the Little Colorado, soon to be traveled by a scouting party in 1875 and another mission of 200 men, organized in 1876. The settlers in this latter mission reached Sunset Crossing, near present-day Winslow, Arizona, in March 1876. Between 1876 and 1880, the Utah-Arizona road was in constant use as Mormons streamed into the Little Colorado region, establishing a foothold in northeastern Arizona. Beyond Lee's Ferry the route was known as the Mormon Wagon Road. By 1880 two other routes were used by Mormons traveling between Utah and the Little Colorado River settlements in Arizona, although neither was as heavily traveled as the Lee's Ferry route.

Once the St. George Temple was completed in 1877, young Mormon newlyweds, married by civil authorities in the Arizona settlements, traveled from the Little Colorado River settlements to St. George (by way of the Mormon Wagon Road and Lee's Ferry route) to have their vows solemnized in the temple. Generally, several wagons traveled together, providing both companionship and security in case problems were encountered along the primitive road. These treks were usually made in mid-November with the couples remaining in St. George for the

winter, returning to the Little Colorado in April. The route was traveled by so many newlyweds that it came to be known popularly as "The Honeymoon Trail."

Portions of the old road's well-worn trace can still be seen, including at the vicinity of Pipe Spring where late 19th century travelers would have naturally stopped for water. A portion of the Honeymoon Trail is shown on early 20th century area maps as the "Kaibab Wagon Road" as it passes through the Pipe Spring vicinity. Once Pipe Spring National Monument was established, a number of changes were made to the small section of historic road that traversed the 40-acre tract. In 1934 the road was relocated south of the fort ponds; it was abandoned altogether as a vehicular route, once State Highway 389 opened in 1967. While native vegetation now obscures much of the old road trace within the monument itself, it can be very easily discerned as one looks southwest far across the landscape from the fort.

The Impact of Latter-day Saint Colonization on the Southern Paiute

Historian Leonard Arrington compared the early Latter-day Saints with this country's first colonists, the Puritans, whose religious dogma carried over into secular life. Arrington wrote,

> [The Church's task] did not end with the conversion of individual souls. As the germ of the Kingdom of God, the church must gather God's people, settle them, organize them, and assist them in building an advanced social order. Ultimately, according to Mormon theology, the Church must usher in the literal and early Kingdom of God ('Zion') over which Christ would one day rule…. All individuals who participated in this divine and awesome task would be specially blessed and protected. One day, when the Kingdom was finally achieved, there would be no more wars or pestilence, no more poverty or contention.[22]

Brigham Young likened the process of teaching Indians the ways of white men and leading them toward Latter-day Saint conversion to the process of irrigation. Young stated, "[We must] cut channels" for water to run in "and gradually lead it where we want it to go.... Just so we must do with this people... by degrees we will control them."[23] During the four decades of colonization that spanned from 1850 to 1890, Mormons established some 450 farm villages and towns. Even before the last watered lands in Utah were ferreted out during the 1870s and 1880s, the Saints extended their colonizing efforts to the neighboring states of Nevada, California, Idaho, Colorado, and Arizona. These settlements were a highly effective means of expanding the Church's area of the influence and economic power. By the 1890s, Latter-day Saints had established colonies as far as Canada and Mexico as a direct response to the U.S. government's crackdown on polygamists that began in 1885.

The impacts on native flora and fauna that accompanied Mormon settlement along Kanab Creek and other nearby locations, such as Short Creek, Pipe Spring, and Moccasin Spring, were disastrous, resulting in the loss to the Kaibab Paiute of their traditional means of subsistence. This in turn led to a rapid decline in population. Although relations stabilized between Latter-day Saints and the Kaibab Paiute during the following three decades, the Indians found themselves in a desperate plight. The Latter-day Saint's religion and charity proved to be woefully insufficient compensation for the Kaibab Paiute loss of traditional lands and other resources essential to their way of life. As native subsistence became increasingly precarious, many Kaibab Paiute moved into closer proximity to the Latter-day Saint settlements of Kanab, Fredonia, and Moccasin, while others sought out wilderness refuge away from Euroamerican settlements, such as Kanab Creek Canyon. In the 1860s, the federal government began establishing agencies (reservations) for Utah's native population. The Uintah Ute were attached to an Indian agency established in northeastern Utah in 1868. In an 1873 special commission report, John W. Powell and G. W. Ingalls recommended that the Kaibab Paiute also be placed under federal jurisdiction so that they might at

[22] Arrington, *Great Basin Kingdom*, 5.
[23] Cited in Peterson, *Utah, A History*, 42.

least have food to eat and accessible farmland. It would be 34 years before the government acted on that recommendation.

Mormon settlement at Moccasin and elsewhere in the region was not the only threat to the Kaibab Paiute way of life. Federal government actions also made a significant impact. In 1893 much of the nearby high country to the southeast was set aside as a forest preserve. Before then, the Indians obtained most of their living from hunting deer on Buckskin Mountain. After the creation of the preserve, they could no longer hunt and gather food there. They barely survived into the 20th century, living in teepees near Moccasin, where they subsistence farmed a seven-acre plot of land given to them about 1880 by the Church as part of its mission work among them. Along with the land, the Church had given them one-third rights to Moccasin Spring, a critical source of water. To try and make ends meet, the Indians worked odd jobs for white ranching families, with the men often doing ranch work and the women taking in washing.

Concerned Church officials brought the dire economic condition of the Kaibab Paiute to the attention of Utah Senator Reed Smoot who, in late 1905, asked the Office of Indian Affairs for federal relief. The situation regarding access to traditional hunting lands, however, only worsened. On November 28, 1906, President Theodore Roosevelt established the Grand Canyon National Game Preserve. On January 11, 1908, Roosevelt proclaimed Grand Canyon National Monument, separating it from the Kaibab National Forest which was created that year from the forest reserve set aside in 1893. From 1906 to 1923, the federal government employed hunters of the U.S. Biological Survey to kill predatory animals, including more than 800 cougars, 30 wolves, nearly 5,000 coyotes, and more than 500 bobcats. State deer-hunting laws suddenly became rigidly enforced in the interest of the infant tourist industry. As off-reservation Indians with no treaty protection or hunting rights, the Kaibab Paiute were subject to these laws. The imposition of state license, season and bag limits dealt them a serious blow, as they had long been dependent on deer for food and buckskins to trade. The displacement of the Kaibab Paiute from their lands and the resources they had depended on created a crisis that ultimately prompted remedial action from the federal government.

Establishment of the Kaibab Indian Reservation

The government's solution to the "Indian problem," implemented throughout the West during the 19th and early 20th centuries, was the creation of Indian reservations. The creation of the Kaibab Indian Reservation was not accomplished by a single act of government, but rather evolved by fits-and-starts over a period of 10 years, from 1907 to 1917. By 1906 the Kaibab Paiute population reached a historic low of 73. By the Indian Appropriation Act of June 21, 1906 (34 Stats. 325 and 376), Congress appropriated $5,000 for the purchase of lands and sheep for the San Juan Paiute and $10,500 to "support and civilize" the Kaibab Indians in southern Utah and northern Arizona and for the purchase of lands and water, along with farming implements, machinery, and livestock. Subsequent investigations by Office of Indian Affairs agents in 1906 and 1907 led to the Indian Appropriation Act of March 1, 1907 (34 Stats. 1015 and 1049), under which the original (1906) sums were reappropriated and made available for the use of the Paiute Indians in southern Utah and northern Arizona.

The first step toward creating the Kaibab Indian Reservation took place in October 1907, when the Secretary of the Interior directed the Commissioner of the General Land Office withdraw the necessary lands (216 square miles, or 138,000 acres) from settlement and entry. The 1907 withdrawal enclosed all of Moccasin and Pipe Spring and part of the nearby town of Fredonia within its boundaries. In 1908, by agreement between the Department of the Interior and the Jonathan Heaton family of Moccasin, the Kaibab Paiute moved from the 10-acre tract the Church had given them located next to Moccasin Spring, to a location 1.5 miles to the southeast. The new school and village were established on lands claimed by the Heatons but relinquished to the Indians in exchange for the Moccasin land the Indians had vacated. That year a division weir was installed at Moccasin

Spring and a pipeline was laid to transport the Indians' one-third share of water to the new village reservoir. Both Indians and white employees living and working in Kaibab Village for both domestic and agricultural purposes used the Indians' portion of spring water. Other developments (believed to all date to 1908) comprised a school, an office/residence for the superintendent, six stone residences for Kaibab Paiute families, and several support buildings. In addition, the Indian Office issued 83 heifers to the Indians.

A number of protests were received against the setting aside of the lands for the Kaibab Paiute. On December 9, 1909, Senator Reed Smoot submitted a petition to the Secretary of the Interior signed by about 100 residents of Kanab, Utah, and Fredonia, Arizona. The petition requested that the newly created Kaibab Indian Reservation be reduced in area. No action was taken at this time to further reduce the reservation's size. Meanwhile, an agent of the Office of Indian Affairs began teaching techniques of dry-farming and cattle ranching to the Indians. By 1912 the Indian cattle herd had grown to 350-400 head.

On June 11, 1913, President Woodrow Wilson issued Executive Order No. 1786 temporarily withdrawing public lands ("Township 41 N., R.2 W., G. and S.R.M.") from settlement, location, sale, or entry "for the purpose of classifying said lands, and pending the enactment of legislation for the proper disposition thereof..."[24] (As this executive order did not supersede the Departmental Withdrawal Order of October 16, 1907, it is presumed that its intent was to strengthen the 1907 order in anticipation of the creation of the reservation.) A few weeks later, on July 2, Office of Indian Affairs Commissioner F. H. Abbot wrote to Department of the Interior Secretary Franklin K. Lane to request that the lands that included the town of Fredonia be eliminated from the reservation. The public survey completed in 1912 showed that part of the town lay within its boundary. The recommendation was approved by First Assistant Secretary A. A. Jones on July 8, 1913, and referred to the Commissioner of the General Land Office. Thus by Departmental order, the part of Township 41 north, range 2 west, that lay within the boundaries of the reservation was withdrawn.

On July 9, 1917, Commissioner Tallman submitted to the Secretary of the Interior a draft of an executive order that would withdraw 125,000 acres of Arizona land "for the Kaibab and other Indians residing thereon" along with a letter recommending his approval of the order. Secretary Lane approved the order and forwarded it to President Wilson on July 12. On July 17, 1917, President Wilson issued Executive Order No. 2667 creating a permanent reservation for the Kaibab Paiute. At the time of this order, the Kaibab population was 95 persons of which 54 were adults and 41 of minor age. About 87,000 acres were under lease to stockmen for grazing purposes, with the remaining grazing lands utilized for tribal stock. That same year, at the request of the Commissioner of Indian Affairs, the boundaries were revised, reducing the total area of the Kaibab Indian Reservation to 120,413 acres. This was done so that the boundaries would fall on section lines and to reduce conflict along the western boundary with white ranchers filing homestead claims. Conflict between local whites and Indians, particularly over water, however, would persist throughout the 20th century.

Pipe Spring, 1863-1869

As they carried out Brigham Young's directive, Mormon settlers moved to southern Utah and into what soon was to become Arizona Territory, created by President Abraham Lincoln on February 24, 1863. They laid out town sites, allocated fields, and constructed communal irrigation systems. Between 1863 and 1865, stock ranches were established at Short Creek, Pipe Spring, and Moccasin Spring (also known as "Sand Spring"). At about the same time, ranches were established at the present site of Kanab, Utah, although these were temporarily abandoned during the height of conflict with the Navajo. Thus, within a very short time period, white settlers had

[24] Copies of Executive Orders of June 11, 1913, July 17, 1917, and October 22, 1918; from Bureau of Indian Affairs, St. George, Utah. "Kaibab Realty: Cadastral Survey/Resurvey of Boundary" file.

expropriated all perennial water sources in the Kaibab Paiute territory. These were Kanab Creek, Short Creek, Pipe Spring, and Moccasin Spring. The latter two were the only large springs in the area.

The first white man to lay claim to Pipe Spring was James Montgomery Whitmore. After joining the Church of Jesus Christ of Latter-day Saints in Texas, Whitmore moved with his wife, Elizabeth, and several children, a brother, and a sister to Utah in 1857. Because he had been a druggist before coming to Utah, he was known as "Doctor Whitmore." Whitmore remained in Salt Lake City until the 1861 call, then moved with his family to St. George. On April 13, 1863, Whitmore received a land certificate for a 160-acre tract, which included Pipe Spring. (It is notable that John D. Lee, participant in the Mountain Meadows incident referenced earlier, signed this certificate.) Upon this tract Whitmore, assisted by Robert McIntyre, established a ranch, constructed a small for quarters, fenced about 11 acres for cultivation, set out about 1,000 grape vines, built corrals, and planted peach, apple, and other fruit trees.[25]

It is important to note that Whitmore's settlement at Pipe Spring coincided with Kit Carson's military campaign against the Mescalero Apache and Navajo in Arizona Territory, referenced earlier. In 1865 Navajo raiding parties began crossing the Colorado River, raiding settlements along the Arizona Strip. In December 1865 the Navajo attacked the Utah Territorial Militia garrisoned at Kanab, forcing the settlement's abandonment. On or about January 9, 1866, a party of Indians drove off a herd of sheep from Whitmore's ranch. Whitmore and McIntyre set out to trail the raiders, leaving James Jr., Whitmore's 11-year-old son, in the dugout. When the men didn't return, the boy headed on foot for William B. Maxwell's ranch in Short Creek, 25 miles west. He was intercepted by men on horseback who then informed Maxwell of the situation. Maxwell, a major in the militia, began gathering men for a search party. On January 11, 1866, word was received in St. George from Maxwell of the disappearance of Whitmore and McIntyre. Thirty-one local volunteers under the command of Col. D. D. McArthur and a second detachment from St. George of 46 men led by Capt. James Andrus arrived at Pipe Spring to search for Whitmore and McIntyre. Anson P. Winsor was one of those in the search party, as was Edwin D. Woolley, Jr., both prominent in Pipe Spring's later history.

Numerous conflicting accounts relate the events surrounding the militia's January 20 discovery of the bodies of Whitmore and McIntyre and the subsequent retaliatory killings of a number of Paiute men. Some reports say that the Paiute were found to have in their possession some of Whitmore and McIntyre's property. Years later, in July 1914, James Andrus told his version of the story to photographer Charles Ellis Johnson who wrote it down. According to Andrus, his troops had encountered two Indian men in the process of attempting to kill several cattle. They took the two prisoners to the militia camp and turned them over to McArthur. In return for a promise of his freedom, the older of the two Indians led them to the bodies of Whitmore and McIntyre. Later, again in return for a promise of freedom, the younger Paiute led the militia to the Indian encampment where the militiamen arrested nine more Paiute men. In spite of protestations of innocence by these captives, the militiamen held them accountable for the murder of Whitmore and McIntyre and shot and killed them.[26] Thus, according to Andrus' account, nine Paiute men were killed; other reports of the number killed range from 6 to 13. There is no record of what happened to the remains of the slain Kaibab Paiute men. The bodies of Whitmore and McIntyre were returned to St. George for burial. All business was suspended on the day of the funeral, January 23, 1866, and over 300 people attended last rites for the two men.

[25] Documentation indicates that the Whitmore family continued to reside in St. George, thus the dugout was most likely used only as temporary shelter for him and/or McIntyre.

[26] Jacob Hamblin later learned from contact with the Indians that the Paiute men the militiamen had shot to death were innocent, and that the killers of Whitmore and McIntyre were more likely Navajo.

The slaying of Whitmore and McIntyre and subsequent retaliation by militia against the Paiute were not to be the last blood shed between whites and Indians on the Arizona Strip. On April 7, 1866, Joseph Berry, Robert Berry, and his wife Isabella were killed by Indians near Maxwell's Ranch at a spot since known as Berry Knolls, located 1.5 miles south of Short Creek (now Colorado City). The danger to the Mormon frontier was now grave. Martial law was declared and Brigham Young urged that small frontier settlements be abandoned with residents moving to larger towns for security. No settlement, he advised, should have less than 150 well-armed men. As the theft of livestock was thought to be the Indians' primary objective, Young urged settlers to guard their animals. Practically the entire eastern line of settlements, those in the Sevier Valley, most of those along the upper middle sector of the Virgin, and all the settlements in Kane County as well as Moccasin and Pipe Spring were abandoned, not to be reoccupied until about 1870-1871.

Although Pipe Spring was within the new territory of Arizona, James M. Whitmore had received the land certificate for his Pipe Spring claim from Washington County, Utah Territory. The confusion was attributable to the shifting character of Utah's territorial boundaries, beginning 11 years after its creation, and to a prolonged effort by Utah officials to have the Arizona Strip returned to Utah. During its early history, Pipe Spring fell under the jurisdiction of three different counties in two different territories. From January 4, 1856, to August 1, 1864, it fell under the jurisdiction of Washington County. When Kane County was organized in 1864 Pipe Spring came under its jurisdiction where it remained until 1883. Both these counties were located in the Utah Territory. The size of its territory was reduced a number of times by the creation of the territories of Nevada and Colorado (1861), and Wyoming Territory (1868). More Utah territory was lost when the Nevada Territory's eastern boundary was moved eastward in 1864. As late as 1897, some Utah officials were still arguing to retain the Arizona Strip territory, lands that lay between the Utah border and the Grand Canyon, but to no avail. Arizona's territorial boundaries were extended in 1883 to take in much of the Arizona Strip, and at that time the Pipe Spring ranch was placed under the jurisdiction of Mohave County, Arizona, where it has since remained.

In 1866 Capt. James Andrus was given command of a cavalry company consisting of 62 officers and men and was instructed to examine the country along the Colorado River from the Buckskin Mountain (on the Kaibab Plateau) to the north of the Green River. The expedition left St. George on August 16, 1866, and traveled by way of Gould's Ranch, Pipe Spring, the abandoned settlement of Kanab, Skutumpah, to the Paria River, which they reached in the vicinity of the later site of Cannonville. It may have been at this time (or shortly after) that a stone cabin was constructed at Pipe Spring to be used for periodic encampment by the militia (what is now known as the east cabin). On November 24, 1868, Colonel John Pearce camped at Pipe Spring with 36 men of the Utah Militia under his command. By March of 1869, Erastus Snow, Bishop of Southern Utah, decided to make Pipe Spring a permanent supply base for the militia. Men were sent to plant turnips and corn where Whitmore had once raised his crops. The stone cabin was repaired for use as guard quarters. In August of that year, John R. Young reported from Pipe Spring that four tons of hay had been cut on the "Moccasin spring creek," 2.5 miles north of Pipe Spring. Two tons of this hay were brought to Pipe Spring and a shed was built to shelter 16 horses. By September 12 of that year, a decision was made to winter the militia at Kanab due to its proximity to the Colorado River. The Pipe Spring supply base was soon vacated.

Fort Construction at Pipe Spring; The Early Years, 1870-1885

In April 1870 Church President Brigham Young traveled to the site of Kanab and issued a call for it to be reoccupied. During this trip, he surveyed the Pipe Spring area and decided that the site would be a good location for some of the Church's tithed herds. For the safety of local settlers, Young also decided that a fort should be constructed at Pipe Spring. He returned to Salt Lake City and appointed Anson P. Winsor to take charge of the operations. On his return trip to consecrate the town of Kanab the following September, Young stopped at Pipe

Spring to inspect the site for the new fort. Present there at the time were Major John Wesley Powell, Jacob Hamblin, and Chuarumpeak (nicknamed "Frank" by whites), Powell's Paiute guide.

Upon Whitmore's death on January 9, 1866, his widow, Elizabeth Carter Whitmore, inherited the ranch as part of her husband's estate. In December 1870, Mrs. Whitmore made a verbal agreement with Brigham Young to sell the Pipe Spring ranch to the Church. A record of payment to Mrs. Whitmore was not made until just over three years later, however, after the organization of the Winsor Castle Stock Growing Company (Winsor Company). A meeting convened in the St. George Tithing Office on January 2, 1873, for the purpose of organizing this cooperative livestock company. Erastus Snow was chosen its first chairman. The maximum capital stock agreed to was $500,000. The Board of Directors elected Brigham Young president; his nephew, Joseph W. Young, vice-president; and Alexander F. MacDonald, treasurer. Initial subscriptions in stock were made totaling $17,450, with the Church as primary subscriber. The Winsor Company offered Mrs. Whitmore $1,000 in capital stock in the company for ranch and improvements, which she accepted. She also received a cash payment of $366.64, believed to be for interest owed resulting from the three-year delay of payment. In exchange, Mrs. Whitmore provided the company with a bill of sale. No legal record of the transfer of title from Whitmore to the Church has ever been located and may have never been executed, given the political tenor of the times.

Anson P. Winsor was one of the Latter-day Saints who responded to the call of 1861. Born August 19, 1818, in Ellicotville, New York, he was baptized into the Church in 1842. As a member of the faithful group gathered in Nauvoo, Illinois, he had acted as one of Joseph Smith's bodyguards. He emigrated from the Midwest to Utah in 1852 with his wife, Emeline Zenatta Brower, and a growing family, and soon located in Provo. (The couple eventually had nine children.) There in 1855, he took in plural marriage a second wife, Mary Nielsen, a Danish immigrant. Winsor's role in the Utah War (1857-1858) has already been mentioned. During the period of heightened conflict with Indians (late 1865-1869), Winsor served as colonel in the Third Regiment of the Utah Territorial Militia under General Erastus Snow. He is reported to have participated in several battles with Indians. In response to Brigham Young's call to colonize southern Utah, Winsor moved his families in 1861 from Provo to Grafton on the Virgin River, and was appointed its bishop in 1863. Grafton, along with Kanab and other settlements, was abandoned in 1866 during the period of Navajo raids.

Winsor was living in Rockville, Utah, when he was appointed by Brigham Young in April 1870 to collect and oversee the Church's tithing ranch at Pipe Spring. His role as ranch superintendent began that May. Soon after, he sent his 15-year-old son, Anson Jr., to the site to plant a garden prior to the family's arrival. The boy lived in the old Whitmore-McIntyre dugout during this period. Winsor received $1,200 salary per year from May 1870 until the January 1873 organization of the Winsor Castle Stock Growing Company. Thereafter he received a $1,000 salary; another $2,500 went to pay four hired men and one woman who helped with ranch operations.

Joseph W. Young, president of the Stake of Zion in St. George and nephew of Brigham Young, was charged with overseeing the construction of the fort at Pipe Spring.[27] Young wrote a letter on October 16, 1870, from his home in St. George to President Horace S. Eldredge in England describing his appointment and noting,

> This work will keep me out most of the winter, but it is a very necessary work, and I am willing to do my part in it. This Pipe Spring and Kanab country is right between us and the Navajos, and it is the best

[27] A "stake" is made of up three or more "wards," the latter being comparable to a local congregation, parish, or single church. Kanab Stake was organized in 1877.

> country for stock raising that I ever saw if it can be made safe against the raids of these marauding Indians. I start out tomorrow with a small company to commence the work.[28]

Presumably, Young and his party left the following day and soon began the preliminary work of laying out the fort. John R. Young, Joseph W. Young's brother, brought his two wives, Albina and Tamar, and their children from Washington, Utah, to Pipe Spring in 1870 so that he could assist his brother with construction of the fort. John R. Young reported that his wife Tamar assisted Joseph Young in drawing up the plans for the fort. Construction of the fort began that fall with between 30 and 40 men. It is not known exactly when the rest of the Winsor family arrived, but it was some time prior to Joseph W. Young's arrival. The Winsors lived in the two-room east cabin, the north room having been constructed about 1868 and the south room, in 1870. Anson P. Winsor's son, Walter, later reported that Joseph W. Young was also mayor of St. George, thus did not spend all of this time at Pipe Spring. When he was at Pipe Spring, he reportedly shared the Winsors' cabin. In 1870 a second two-room stone cabin was erected west of the fort site to house workers.

While the fort was originally planned to be 152 by 66 feet, its size was reduced to approximately 68 by 44 feet, possibly because threats from Navajo to nearby settlements were no longer a problem after the November 5, 1870, treaty at Fort Defiance. Brothers Elisha and Elijah Averett were stonemasons during the fort's construction, Elisha being named foreman. The Averett brothers oversaw a number of construction projects for the Church, including the Nauvoo Temple and the St. George Temple. The Pipe Spring fort was completed by April 1872, except for interior work that continued for several years.[29]

The main function of the cattle ranch at Pipe Spring was to produce cheese, butter, beef, and hides for Mormon workers building the St. George Temple, which was under construction during 1871-1877. Sheep were also kept at Pipe Spring during this period, providing a source of wool and lamb for the St. George workers. In addition to cooling the dairy room, the water that issued from the spring beneath the fort was used for culinary purposes, crop irrigation, and stock watering. According to a family descendant, the Winsors had a vegetable garden planted with tomatoes, corn, potatoes, squash, and pumpkin. In addition, the family kept a vineyard and a variety of fruit trees (peaches, apples, and two varieties of plums) and planted black currants.

Major John W. Powell obtained supplies for his Grand Canyon expedition at Pipe Spring in 1871 and 1872. Anson P. Winsor's son, L. M. Winsor, reported that it was during these visits that Powell christened the new fort, "Winsor Castle." Prior to that time, L. M. Winsor said, it was called "Fort Arizona." However, the fort at Pipe Spring never came under Indian attack. Relations with the nearby Kaibab Paiute had long been friendly, and the peace negotiated by Hamblin and Powell with the Navajo while the fort was under construction eventually ended the raiding of white settlements. While there had once been occasional Navajo raids in the area, the local Paiute were friendly to the family, the son recalled.

After the 1870 peace settlement with Jacob Hamblin, the Navajo became frequent visitors and traders in Mormon settlements. Their raiding of Southern Paiute camps, however, continued. As threats of Navajo attacks on Mormon settlements gradually waned, the Mormons broke earlier mutual protection treaties with the Paiute. A significant decline in interactions between Euroamericans and the Paiute characterized the three following decades. Southern Paiute north of the Colorado River sought refuge with other peoples, such as the Hualapai and

[28] Joseph W. Young, letter to Horace S. Eldredge, October 16, 1870. Cited in Woodward, "A Brief Historical Sketch of Pipe Springs, Arizona," 19.

[29] Winsor Company records say payment for making the courtyard gates was made in May 1877, suggesting these were completed rather late.

Havasupai, or moved to more isolated places like the lower Kanab Creek area, and to hidden places along the Colorado River in the Grand Canyon. A number of Kaibab Paiute cast their lot with the white settlements of Kanab, Fredonia, and Moccasin where they eked out a marginal existence by relying on occasional handouts of food and on limited opportunities for employment doing menial jobs. At least until 1900, payment was usually made in the form of produce or locally produced goods. Even menial jobs were not secure, however. As thousands of poor, land-hungry Church converts from Great Britain, Ireland, and Scandinavia continued to immigrate to the newly colonized areas, many of the unskilled tasks once performed by Indians were turned over to new immigrants.

Anson P. Winsor continued overseeing the Church's cattle at Pipe Spring until he was called to St. George in the fall of 1876 to labor there as an ordinance worker in the Temple. After Winsor's departure, his son Walter was in charge at Pipe Spring until the arrival of Charles Pulsipher who lived at the fort with the second and third of his three wives, Sariah and Julia, and children. Pulsipher was elected superintendent of the Winsor Company's herd on January 3, 1877, moving to Pipe Spring from Hebron, Utah, where he had supervised another Church herd. The size of the Pipe Spring herd in mid-1877 was 2,097 cattle.

By a unanimous vote of stockholders present at a meeting held January 1, 1879, the property of the Winsor Castle Stock Growing Company was transferred to the Canaan Cooperative Cattle Company (Canaan Company) of St. George, headed by Erastus Snow, president of the St. George Stake. Brigham Young, who was its primary shareholder until his death in 1877, founded the Canaan Company in 1870. It was probably the largest of the southern Utah cooperatives, operating dairies, farms, meat markets, and hiring agents to represent it. The company's main ranch headquarters was at Canaan Spring, in a cove at the base of the Vermilion Cliffs a few miles west of Short Creek. Soon after the merger between the Winsor Castle Stock Growing Company and the Canaan Company, Pipe Spring's dairy cattle were transferred to Canaan's dairy ranch at Upper Kanab. Pipe Spring ranch operations then concentrated on the production of beef cattle.

Drought in 1879 and over-grazed range reduced the Pipe Spring herd. On November 15, 1879, the Canaan Company returned the Pipe Spring property to the Church, or rather, to the Trustee in Trust, President John Taylor. At their next meeting on December 17, 1879, the Company directors approved paying the Trustee in Trust rent for the Pipe Spring ranch from July 1 through December 31, 1879. In late 1879, the Company's Chairman Erastus Snow and President Taylor agreed that annual rent in 1880 for the Pipe Spring ranch would be $250.

The transfer of Pipe Spring to the Canaan Company, then back to President Taylor, may seem curious, but in context of the events of the time, it can be better understood. At the personal orders of Brigham Young, the Pipe Spring fort had been constructed by a work mission of the Church and subsequently used as a tithing ranch. President Young held controlling stock of the Winsor Castle Stock Growing Company as Trustee in Trust for the Church. The legal process to settle Young's estate, begun after his death (which took place on August 29, 1877), was not completed until some time in 1879. The giant share of Church properties in Young's name was eventually turned over to his successor, John Taylor. It is probable that Pipe Spring wasn't immediately transferred to Taylor's control pending the outcome of the settlement of Young's estate. In any event, President Taylor continued the policy of secretly holding certain Church business properties in the names of individual trustees, presumably to prevent federal officials from knowing the actual extent of Church holdings.

In early 1879, Canaan Company Superintendent James Andrus was appointed to take charge of the Winsor Castle herd but resigned later that year. Pulsipher stayed on at Pipe Spring into the winter of 1879-1880. On December 17, 1879, the company hired James S. Emett to oversee the Andrus Spring, Short Creek, and Pipe Spring ranches. Census records indicate Emett lived in Kanab. He was released from his position the following year, and soon

after the company notified President Taylor it would not renew its lease. By 1880 the Church's policy in managing the Pipe Spring ranch was to lease it to interested cattlemen who would use it as an investment and care for the Church cattle herd. After the Canaan Company's lease expired (some time in 1880), the ranch was vacant until late 1881 or early 1882 when it was leased to Kanab resident Joseph Gurnsey Brown, who lived there with his plural wife Harriet. (Brown's other wife, Lovina, remained in Kanab.) The Browns left Pipe Spring in 1885, moving back to Kanab.

The Deseret Telegraph Line

The organization of the Deseret Telegraph Company dates back to 1861 when the transcontinental telegraph reached Salt Lake City. Church leaders immediately planned to build a line for the settlements from north to south but the Civil War temporarily prevented them from acquiring the necessary wire, insulators, and equipment. During the winter of 1865-1866, the Mormons subscribed money and contributed teams and teamsters to form a train to transport these supplies from the Missouri Valley. A Church-run school for telegraphy was set up in Salt Lake City, the company was incorporated by the territorial assembly, and construction began on the telegraph line with men's labor credited as a Church tithe. Troubles with Indians during 1865-1870 hastened the line's construction. In 1867 the Church built Cove Creek Fort, located 200 miles south of Salt Lake City. Its primary purpose was to protect the Deseret Telegraph Company's line that linked the area's settlements to Salt Lake City. The telegraph line reached St. George on January 15, 1867.

In 1870, white settlers returned to temporarily abandoned Arizona Strip settlements, including Moccasin, Short Creek, and Kanab. The Deseret Telegraph Company then began constructing a telegraph line from Rockville, Utah, to Kanab through Pipe Spring. The telegraph station established at the Pipe Spring fort was the first one in the Arizona Territory. The first message was sent from there on December 15, 1871. The telegraph line reached Kanab on Christmas Day, 1871. Eliza Luella ("Ella") Stewart was the first operator at Pipe Spring; she was also was the first operator in Kanab where the office was set up in the home of her father, Bishop Levi Stewart.

The arrival of the telegraph line to Pipe Spring and Kanab at the end of 1871 enabled settlers in remote Arizona Strip settlements to communicate with Salt Lake City and thus with the rest of the world. It helped to end the terrible isolation that was characteristic of such settlements and kept those in Salt Lake City informed of distant developments. Given the highly charged political atmosphere of the 1870s and 1880s, communication between Salt Lake City leaders and nascent Mormon settlements was extremely important. It was critical during those years, both from a personal and business perspective, for local Church officials and other residents to be forewarned about federal laws and their planned enforcement. The telegraph system, being the most rapid form of communication for its time, undoubtedly enabled many polygamist families time to evade legal prosecution and the Church to protect some of its property from confiscation. Having a telegraph station at the Pipe Spring fort both facilitated management by the Church of its tithing ranch at Pipe Spring and enabled the fort to serve as a safe haven for polygamists.

By 1880 the telegraph line was about 1,000 miles long; 1,200 miles of wire were strung over thousands of rough poles, and there were 68 offices or stations. In 1888 the first telephone was installed in the Pipe Spring fort, portending obsolescence of the telegraph system. In 1900 the Deseret Telegraph Company was sold to eastern interests. A 1940 news article in the *Arizona Daily Star* reported that the Pipe Spring telegraph line was used as the telephone line until 1937. At that time, the phone company ran an underground cable to the fort. This is when efforts began to restore the Deseret Telegraph Company's line at Pipe Spring (see Item 7). Only two other historic sites in Utah currently are associated with and interpret the historic telegraph line, Cove Fort and a privately-owned telegraph station in Rockville, Utah.

The Later Years, 1885-1895 - Pipe Spring as a Refuge for Polygamists

Shortly before the Brown family departed Pipe Spring, the Church turned management of the ranch and herds over to the United Order of Orderville. Erastus Snow's son-in-law, Edwin D. Woolley, Jr., was placed in charge of the Pipe Spring herd in late 1885. A polygamist and president of Kanab Stake, Woolley maintained a home and family in Kanab while moving his plural wife, Florence (or "Flora," daughter of Erastus Snow), and their three children to the Pipe Spring ranch in the spring of 1886. The United Order was a communitarian effort organized at Mt. Carmel, Utah on March 20, 1874, by John R. Young. Promoted by Brigham Young, the program was designed to spur spiritual and communal economic revival and, for a time, was particularly successful in southern Utah. Located two miles north of Mt. Carmel, Orderville was situated on the Virgin River in Long Valley, in southern Utah. The heyday of the Order was 1880 when its adherents numbered nearly 600. Farming lands were expanded to include areas scattered through Long Valley and Kanab. By 1881 the Orderville Order owned herds of sheep and cattle numbering in the thousands. Such success led the Church to put the United Order in charge of the Pipe Spring ranch.[30]

Eight years prior to Brigham Young's decision to acquire Pipe Spring and have it managed as one of the Church's cattle ranches, a federal law was passed that would have great impact on activities at Pipe Spring. In 1862, Congress passed the Morrill Act, which outlawed polygamy, disincorporated the Church, and prohibited it from owning more than $50,000 worth of property other than that used directly and exclusively for devotional purposes. Although the law was generally considered unconstitutional, the Church attempted a kind of surface compliance with it by permitting only one civil marriage, calling the others "sealings," and placing properties acquired by the Church in the hands of Brigham Young as trustee in trust. After Young died, Church business properties continued to be secretly held in the names of individual trustees. The Morrill Act was challenged in the 1874 case of *Reynolds v. United States*. The U.S. Supreme Court upheld the act in 1878, declaring that the practice of polygamy was not protected under freedom of religion. Still, encouraged by Church authorities, many devout Mormons refused to acknowledge the federal ruling. For them, it was a matter of obeying U.S. laws or obeying God. Not all Mormons took plural wives, by any means. The practice was more common among Church leaders, many of whom were highly influential in their communities. By 1870, 30 percent of the families in St. George were polygamous; by 1880 the number had increased to 40 percent.[31]

Crucial weaknesses in the early legislation targeting Mormons led to the passage in 1882 of the Edmunds Act. This law set in motion a process for reordering the political climate in Utah, and it also had a profound impact on territorial life through criminal prosecutions. The number of deputized federal marshals in the territory tripled. Their primary responsibility was tracking down polygamists. The Edmunds Act put "teeth" into the Morrill Act by enacting heavy penalties for the practice of polygamy, defining cohabitation with a polygamous wife as a misdemeanor, disenfranchising polygamists, and barring them from serving on juries or holding public office. The Edmunds Act also attempted to eliminate the Church as a power in Utah by vesting the territory's political machinery in federal non-Mormon appointive officers. Until 1885, there was widespread belief this law was unconstitutional, so federal officials moved slowly in bringing indictments under it. On March 3, 1885, the Supreme Court upheld the constitutionality of the Edmunds Act by denying the appeal of convicted polygamist Rudger Clawson. Territorial officials then commenced the systematic and intensive prosecution of Church leaders in Utah and elsewhere, known as the "Raid."

[30] When the federal government began intensive prosecutions of polygamists in 1885, Church authorities counseled dissolution of the United Order and it began disbanding shortly thereafter.

[31] Allen Kent Powell, ed., *Utah History Encyclopedia*. Salt Lake City: University of Utah Press, 1994:428.

In 1887 the Edmunds-Tucker Act, or "Anti-Polygamy Act," amended the 1862 Morrill Act, putting even greater pressure on Mormons. This law was designed to destroy the temporal power of the Church. Among its provisions was the dissolution of the Corporation of the Church of Jesus Christ of Latter-day Saints. The Attorney General was directed to institute proceedings to forfeit and escheat all property, both real and personal, of the dissolved Church corporation held in violation of the 1862 limit of $50,000. It also called for the dissolution of the Perpetual Emigrating Company (which promoted and financed emigration of poor Church converts to the Great Basin), the abolition of female suffrage in Utah, and the disinheritance of children of plural marriages. Moreover, it empowered the court to compel the production of books, records, papers, and documents relating to properties held by the Church's president.

Between 1884 and 1893, there were 1,004 convictions for unlawful cohabitation and another 31 for polygamy under the Edmunds Act. As polygamous marriage was difficult to establish in the courts, most often the charge made was that of unlawful cohabitation. Under the Edmunds Act, cohabitation with a polygamous wife was a misdemeanor punishable by a fine of up to $300 or by six months imprisonment, or both. The period from 1885 to 1890 was marked by intensive "polyg hunts" for "cohabs." Many Church leaders went into hiding (or hid their plural wives and children) to escape prosecution. President John Taylor, with 15 wives of his own, refused to obey the law and went into hiding for two years. His last public appearance was in the Salt Lake City Tabernacle on February 1, 1885. He died on July 25, 1887, while in hiding, viewed by some as a martyr for the Church. Just as the 1858 federal takeover of Church government functions had spurred southern colonization, the struggle over polygamy served also as catalyst for further expansion of Mormon settlements. Canada and Mexico had no laws against polygamy, so many Mormons immigrated to those countries. Flora Woolley's father, Apostle Erastus Snow, was charged with finding hiding places for polygamous families in a number of regions, including Mexico.

During these years, aided by Church officials, polygamous husbands sought to find locations for their families in out-of-the way places unlikely to be visited by federal deputies. Federal agents sought plural wives as chief and/or material witnesses against their husbands. If the plural wife could not be located, it was nearly impossible for the federal deputies (referred to as "deps" by the locals) to prove cohabitation. Polygamist husbands went into hiding or sought out various ways of hiding their plural wives and children. Borrowing the phrase associated with earlier anti-slavery activity, Mormons referred to their extensive network of hideouts for plural wives or polygamous families as the "underground."

Edwin Dilworth ("Dee") Woolley, Jr., was one of the polygamists who sequestered his wife Flora and their children across the state line in the remote Pipe Spring fort.[32] At least ten other plural wives and an unknown number of children are reported to have taken refuge at Pipe Spring at various times during the raiding period. The women's names are Josephine Snow Tanner and Georgie Snow Thatcher (sisters to Flora Snow Woolley), Lynda J. (or T.) Marriger, sisters Ellen C. and Ann C. Chamberlain, Caroline Woolley, Emma Carroll Seegmiller, Mrs. Bringhurst and Mrs. Sangford of Toquerville. The husbands of the two Toquerville wives were serving time in the penitentiary. The Chamberlain sisters were the wives of Thomas Chamberlain, president of the United Order in Orderville. Chamberlain was one of those arrested, convicted, fined, and sentenced to prison for violation of anti-polygamy laws. The tenth woman at Pipe Spring was Mary Jane Meeks, a physician's plural wife and midwife who assisted with the many births that occurred there. These women were never all there at the same time. Still, the fort became so crowded during this period that a temporary frame one-room structure was built

[32] Woolley's father-in-law, Erastus Snow, was given the task by Church officials of finding places where polygamists (particularly those in Southern Utah) could escape arrest. In addition to using Pipe Spring as a refuge, it is likely the nearby town of Fredonia, founded in 1884, was also created expressly for that purpose.

southeast of the fort, able to accommodate two women at a time.[33] (It appears in a 1903 photo, but was later removed at an unknown date.)

Husbands occasionally visited but did not take up residence at the fort. A series of male caretakers was hired to oversee ranch operations, but at least two quit, reportedly unable to bear being ordered about by the fort's female occupants. A significant number of changes were made to the Pipe Spring fort and landscape during the six-year Woolley period (see Item 7 for details). Flora Woolley reportedly wanted these alterations to make the place feel less like a prison. She once said of her move to Pipe Springs, "...I went to prison to keep my husband out." In the summer of 1891, Flora Woolley moved back to Kanab.

Including Flora Woolley, eight women are known to have given birth to nine children (three girls and six boys) at Pipe Spring during the raiding years, thus earning it the popular name, "Woolley's lambing ground." A second humorous nickname applied to Pipe Spring during these years was "Adamless Eden," as men put themselves in legal jeopardy if caught by federal deputies while visiting wives there. Pregnant plural wives in particular were a threat to their husbands' freedom during this period, since one couldn't explain one's "delicate condition" and deny a plural marriage at the same time. This might explain the unusually large number of women who gave birth at Pipe Spring over a relatively short span of time.

The problem of plural wives and their children was only one of the concerns of Church leaders, during the "Raid." Protecting its property from federal escheatment under the Edmunds-Tucker Act was also of utmost importance. (From 1870 until 1895, the Church successfully concealed its ownership of the Pipe Spring ranch to prevent its confiscation by the federal government under antipolygamy laws. The Edmunds-Tucker Act of 1887 made the hiding of Church holdings even more imperative, thus the lack of physical evidence recording transfer of Pipe Spring property during this era may have been the result of deliberate intent by Church officials.) Most of the 3,000 head of livestock on Church ranches at Star Valley, Wyoming; Oxford, Idaho; and Pipe Springs, Arizona, was sold to Mormon capitalists and semipublic livestock associations. Immediately following President Taylor's death on July 25, 1887, a suit was filed on July 30, 1887, by the U.S. Attorney General against the Church and the Perpetual Emigrating Company. The Edmunds-Tucker Act abolished the legal position of the Trustee in Trust, and thus another device had to be invented to protect the Church's assets. On August 22, 1887, under New York state law, one of Brigham Young's sons, John W. Young, formed a holding company, the Kaibab Land and Cattle Company. This company took under its umbrella the Pipe Spring ranch, grazing herds at House Rock Valley, Kaibab, and the Arizona Strip, and controlled all the assets of the Canaan Cooperative Stock Company. Through the Kaibab Land and Cattle Company, the Church continued to indirectly run the Pipe Spring ranch, managed by Edwin D. Woolley.[34]

After President Taylor's death in July 1887, Wilford Woodruff became head of the Church. After the passage of the 1887 Edmunds-Tucker Act, the U.S. attorney in Utah began legal action to seize Church property. In 1890, after the U.S. Supreme Court upheld the constitutionality of seizing of Church property, federal officials announced plans to begin seizing Mormon temples. In response to the crisis, on September 25, 1890, President Woodruff issued the "Official Declaration" (also referred to as the "Manifesto") which proclaimed the end of polygamy among Mormons. After Woodruff issued his declaration withdrawing official Church sanction of polygamy, "polyg hunts" by deputy marshals became less frequent and judges showed more leniency in dealing with "cohabs" brought before the courts, sometimes fining them only six cents and dismissing the case if they professed to accept Woodruff's "Manifesto." In January 1893 President Benjamin Harrison signed into effect a

[33] "Pipe Springs Becomes a Sanctuary," Woolley-Snow Family Collection, monument files.
[34] In 1890 there were about 1,400 head of cattle in the Pipe Spring herd.

limited, carefully worded amnesty proclamation for people convicted under anti-polygamy laws. In 1894 President Grover Cleveland granted them complete amnesty, thereby restoring their voting rights and other privileges. In October 1893 an act was passed in Congress authorizing the return of escheated property to the Church. Personal property was returned to the First Presidency in January 1894. Church real estate was returned in June 1896. Utah became the nation's 45th state on January 4, 1896.

By 1895 the Church was free to openly sell properties that had proven unprofitable. In mid-1895 the Church sold the Pipe Spring property to Benjamin F. Saunders. Saunders was a rancher who dealt in both sheep and cattle and had ties to southern Utah and northern Arizona dating from about 1883 until his death in 1909. Saunders also had interests in Colorado, Nevada, Wyoming, and other parts of the west. Although he was a "gentile," he reportedly got along quite well with the Mormons. Saunders had wanted to buy the Pipe Spring ranch for years. At the Canaan Cooperative Stock Company's last meeting on October 1, 1895, held in Salt Lake City, a record was made for the sale of all the Canaan Company's remaining assets to Saunders, including Pipe Spring ranch. Saunders paid $10 a head for all cattle and horses born before 1895. All improvements - buildings, corrals, watering troughs, etc. - were included in the bargain. One researcher speculated that this is the reason no legal transfer of recorded property took place, for this method of transfer (selling the cattle and "throwing in" all the improvements) saved the Church from revealing its lengthy ownership of Pipe Spring. Further proof that the Church still owned Pipe Spring at the time of this sale is a telegram dated June 7, 1895:

> To President Woodruff
> Sale of Pipe Springs to Cattle Syndicate [B. F. Saunders] means serious loss to the people of our stake; if it must be sold the people of the stake wish to buy. See letter by the people.
> E. D. Woolley[35]

Why the Church chose to sell the ranch to Saunders instead of honoring the request of Kanab Stake may never be known. In any event, while Saunders acquired Pipe Spring, no official or legal record of conveyance from the Church to Saunders has ever been found. The sale to Saunders officially ended Church ties to the Pipe Spring property. The ranch remained under private ownership from 1895 to 1924. It would be bought and sold three more times, the last private owners being the Jonathan Heaton family of Moccasin.[36] The Heatons' copartnership was called the Pipe Springs Land & Live Stock Company. The Heatons continued to live in Moccasin while renting out the ranch at different times to a number of different families.

Pipe Spring Becomes a National Monument

After the creation of the Kaibab Indian Reservation in 1917, a number of Mormon homesteaders living in the area sought to gain title to lands they had settled by filing homestead claims. In 1920 a heated legal dispute arose over Charles C. Heaton's claim to Pipe Spring. (Heaton, son of Jonathan Heaton, was vice-president of the Pipe Springs Land & Live Stock Company.) Heaton filed a claim in March of that year. In April the General Land Office denied the homestead application arguing that land was not unappropriated, but had been withdrawn from the public domain in 1907 for the Indians. Heaton's lawyers filed an appeal, arguing that application could not have been made until the public survey had reached the area and that they had filed soon thereafter.

In the midst of this legal battle, National Park Service Director Stephen T. Mather made his first visit to Pipe Spring after participating in the dedication of Zion National Park that took place on September 15, 1920. After attending the dedication ceremony, Mather drove south to visit other southwestern monuments. During his tour he

[35] Church Legal Office, Salt Lake City; cited in Geerdes, "The Ownership of Pipe Spring," 62.
[36] Jonathan Heaton was himself a polygamist, with a wife in Alton, Utah, and another in Moccasin, Arizona. He was the father of Charles C. Heaton and grandfather of the monument's first permanent caretaker, C. Leonard Heaton.

stopped at Pipe Spring and took photographs of the fort. Mather briefly discussed the idea of making Pipe Spring a national monument with the Heatons. Not only were they receptive to the idea, they promised to furnish labor should the Park Service decide to undertake a restoration. Less than a year later, on June 6, 1921, the appeal filed by Charles C. Heaton on his claim to Pipe Spring was denied. Once more, Heaton's lawyer's appealed, filing a motion for a rehearing on the decision. Heaton feared that Pipe Spring would be made part of the Kaibab Indian Reservation and that area ranchers would lose access to its water. He vowed to fight the case all the way to the Supreme Court, if necessary. Director Mather returned to Pipe Spring in the fall of 1921, this time in the company of Union Pacific's President Carl R. Gray, Senator Hampton of Montana, and possibly one or two others. Mather took the group on a tour of southern Utah and northern Arizona to demonstrate the area's potential for tourism. He was both sympathetic to the Church and fascinated by its history. He also could see the benefits of making the site a part of Union Pacific's tour package.

Mather soon took direct action to acquire Pipe Spring for the National Park Service. On January 18, 1922, he wrote to Apostle George A. Smith, a high Church official, and asked him to approach the Heatons about selling Pipe Spring. Mather asked Smith to negotiate a purchase price and to then act as spokesman to raise the necessary funds. In his letter, Mather placed a heavy emphasis on his belief that Pipe Spring as a national monument would "be a big stimulus to the work that is now going on to develop the tourist possibilities of this southern Utah and northern Arizona country."[37] Smith and President Heber J. Grant worked together to help Mather achieve his goal, but progress was very slow. While President Harding signed the proclamation establishing Pipe Spring National Monument on May 31, 1923, the details of the sale and transfer of the Pipe Spring property to the federal government would not be worked out until September 1923.[38] Charles C. Heaton executed a quitclaim deed for Pipe Spring to the United States of America on April 28, 1924.

Concluding Statement

The historic resources at Pipe Spring National Monument represent a critical period of Western history during which Mormon families, under the direction of Church leader Brigham Young and with the protection of local militias, expanded their missionary and colonization activity through **exploration and settlement** from the Great Basin into southern Utah and Arizona. As a Church-owned tithing ranch, Pipe Spring was an agriculture venture unlike few others in the West. With cash-poor immigrants tithing their livestock to the Church, it operated within the context of communitarianism highly distinctive of the Church's 19th century philosophy and practice. As it exemplifies the Church's efforts to promote the welfare of Mormon immigrants, Pipe Spring is thus significant in the area of **social history**. For its role as a refuge for Mormon polygamists resisting federal laws, it is both important in the area of social history and **women's history**, for it was largely women (specifically expectant women) who sought and found sanctuary at Pipe Spring during the years of federal prosecution of polygamists. Finally, as Arizona Territory's first telegraph station, the site is important in the area of the **history of communications**. The telegraph provided a vital communication link between ranch managers and/or occupants, Church leaders, and local officials and facilitated its operations both as a Church-owned business and as a refuge during times of political conflict between Mormons and the federal government.

[37] Stephen T. Mather, letter to George A. Smith, January 18, 1922. Cited in Clemensen, "Historic Structure Report," 31.
[38] The terms of transfer recognized an earlier agreement between Charles C. Heaton and area ranchers that gave them one-third share of water at Pipe Spring.

Item 9

Major Bibliographical References

Archival Sources

National Archives and Records Administration (NARA), Record Group 79, Record Group 48, Record Group 75 Record Group 35; Pipe Spring National Monument, Zion National Park, NPS regional offices in Denver and Santa Fe; Harold B. Lee Library, Special Collections (Brigham Young University), Church Library and Archives (Church of Jesus Christ of Latter-day Saints), Bureau of Indian Affairs, Union Pacific Museum, Hayden Library (Arizona State University), Cline Library, (Northern Arizona University), Special Collections and Archives Department (Museum of Northern Arizona), Bancroft Library, Manuscript Collections (University of California, Berkeley), the Denver Public Library, Western History Collection, and the Denver Service Center, Technical Information Center and Library.

Published Public Documents

McKoy, Kathleen L., *Cultures at a Crossroads: An Administrative History of Pipe Spring National Monument,* U.S. Department of the Interior, National Park Service, Intermountain Region (Denver), Cultural Resource Selections No. 15, 2000.

Unpublished Public Documents (copies available, Pipe Spring National Monument archives)

Bradley, Zorro. "The Whitmore-McIntyre Dugout, Pipe Spring National Monument, Arizona," National Park Service, 1959.

Clemensen, A. Berle. “Historic Structure Report - History Data Section, Pipe Spring National Monument,” National Park Service, 1980 (draft).

Crampton, C. Gregory. “Mormon Colonization in Southern Utah and in Adjacent Parts of Arizona and Nevada, 1851-1900,” National Park Service, 1965.

Fox, Gregory L. “The Pipe Spring Archeological Survey: A Section 110 Planning Project, Pipe Spring National Monument, Mohave County, Arizona.” Tucson: Western Archeological and Conservation Center, National Park Service, 1994.

Heaton, C. Leonard. "Notes of C. Leonard Heaton on Pipe Spring National Monument." (Heaton Journal, 1928-1963), private manuscript.

Geerdes, Raymond. "The Ownership of Pipe Spring: A Legal and Historical Brief," National Park Service, January 1, 1970.

Judd, Debra. “Pipe Spring as Political Refuge, 1885-1896.” Pipe Spring National Monument; National Park Service, draft, February 15, 2000.

LaMar W. Lindsay and Rex E. Madsen, “Report of Archeological Surveys of the Pipe Springs National Monument Water Supply System Project, Kaibab Indian Reservation, Mohave County, Arizona; Zion National Park Sewer Extension Project, Washington County, Utah; Arches National Park Road and Sewage Disposal Area Projects, Grand County, Utah; and Canyonlands National Park

Road Projects, Needles and Grandview Point Areas, San Juan County, Utah." Salt Lake City: University of Utah; July 15, 1973.

Nelson, Peggy Froeschauer and Kathleen L. McKoy. "Cultural Landscape Inventory, Pipe Spring National Monument," National Park Service, August 1997.

Stoffle, Richard W., Diane E. Austin, David B. Halmo, Arthur M. Phillips III. "Ethnographic Overview and Assessment: Zion National Park, Utah and Pipe Spring National Monument, Arizona," Bureau of Applied Research in Anthropology, University of Arizona, Tucson, AZ and Southern Paiute Consortium, Pipe Spring, AZ. Draft, July, 1995.

Woodward, Arthur. "A Brief Historical Sketch of Pipe Springs, Arizona," National Park Service, June 1941.

Books

Arrington, Leonard J. *Great Basin Kingdom, An Economic History of the Latter-day Saints, 1830-1900*. Cambridge: Harvard University Press, 1958.

Bradley, Martha Sonntag. *Kidnapped From That Land - the Government Raids on the Short Creek Polygamists*. Salt Lake City: University of Utah Press, 1993.

Carter, Kate B. *Treasures of Pioneer History*. Salt Lake City, Daughters of Utah Pioneers, 1953.

_____. *Our Pioneer Heritage*. Salt Lake City: Daughters of Utah Pioneers, 1958.

Crampton, C. Gregory. *Land of Living Rock, The Grand Canyon and the High Plateaus: Arizona, Utah, Nevada*. New York: Alfred A. Knopf, 1972.

d'Azevedo, Warren L. ed. *Handbook of North American Indians* Washington, D.C.: Smithsonian Institution, 1986.

Jenson, Andrew. *Latter-day Saint Biographical Encyclopedia*. Salt Lake City: Andrew Jenson History Co., 1920.

_____. *Encyclopedic History of the Church of Jesus Christ of Latter-day Saints*. Salt Lake City, Deseret News Publishing Co., 1941.

Lavender, David. *The History of Arizona's Pipe Spring National Monument*. Springdale, Utah: Zion Natural History Association, 1984 (rev. 1998).

McClintock, James H. *Mormon Settlement in Arizona – A Record of Peaceful Conquest of the Desert*. Phoenix: The Manufacturing Stationers Inc., 1921.

Peterson, Charles S. *Utah, A History*. New York: W. W. Norton & Co., 1977.

Peterson, John Alton. *Utah's Black Hawk War*. Salt Lake City, University of Utah Press, 1998.

Van Wagoner, Richard S. *Mormon Polygamy, A History*. Salt Lake City, Signature Books, 1989.

Journals

Crampton, C. Gregory, ed., "Military Reconnaissance in Southern Utah, 1866," *Utah Historical Quarterly*, Vol. 32, No. 2, Spring, 1964.

Knack, Martha C. "Interethnic Competition at Kaibab During the Early Twentieth Century," *Ethnohistory* 40:2, Spring 1993.

Lauritzen, Jonreed. "Pipe Spring, A Monument to the Pioneers," *Arizona Highways*, February 1943.

Olsen, Robert W. Jr. "Pipe Spring, Arizona and Thereabouts" *Journal of Arizona History*, Vol. 6, No. 1, Spring 1965.

_____."Conflict in the Arizona Strip: The First Skirmish of the 1865-1869 Mormon-Navaho War," *Pacific Coast Archaeological Society Quarterly*, Vol. 2, No. 1, January 1966.

Ransom, Jay Ellis, "Refuge at Pipe Spring," *Westways*, Vol. 45, No. 8, August 1953.

_____."Forgotten Refuge at Pipe Spring," *Trailer Travel Magazine*, November 1965.

Spendlove, Earl. "Pipe Spring – A Page from the Past," undated, no citation.

Stoffle, Richard W. and Michael J. Evans. *Kaibab Paiute History, The Early Years*, "Resource Competition and Population Change: A Kaibab Paiute Ethnohistorical Case," *Ethnohistory* Vol. 23:2, 1976.

Woodbury, Angus M., "A History of Southern Utah and Its National Parks" *Utah Historical Quarterly*, Vol. 12, July, October 1944.

Oral Interviews

Caywood, Janene, ed., *Oral History Collection, Pipe Spring National Monument, Vol. I*, Pipe Spring National Monument, 1996.

Lowe, Mary Jane, *Oral History Collection, Pipe Spring National Monument, Vol. II*, Pipe Spring National Monument , 1996.

McKoy, Kathleen L. *Oral History Collection, Pipe Spring National Monument, Vol. IV*, Pipe Spring National Monument, 2000.

Ruppert, David E. and Kathleen L. McKoy. *Oral History Collection, Pipe Spring National Monument, Vol. III*, Pipe Spring National Monument, 1999.

Bibliography

Archival Sources

National Archives and Records Administration (NARA), Record Group 79, Record Group 48, Record Group 75 Record Group 35; Pipe Spring National Monument, Zion National Park, NPS regional offices in Denver and Santa Fe; Harold B. Lee Library, Special Collections (Brigham Young University), Church Library and Archives (Church of Jesus Christ of Latter-day Saints), Bureau of Indian Affairs, Union Pacific Museum, Hayden Library (Arizona State University), Cline Library, (Northern Arizona University), Special Collections and Archives Department (Museum of Northern Arizona), Bancroft Library, Manuscript Collections (University of California, Berkeley), the Denver Public Library, Western History Collection, and the Denver Service Center, Technical Information Center and Library.

Published Public Documents

McKoy, Kathleen L., *Cultures at a Crossroads: An Administrative History of Pipe Spring National Monument*, US Department of the Interior, National Park Service, Intermountain Region (Denver), Cultural Resource Selections No. 15, 2000.

Unpublished Public Documents

Bradley, Zorro. "The Whitmore-McIntyre Dugout, Pipe Spring National Monument, Arizona," 1959.

Clemensen, A. Berle. “Historic Structure Report - History Data Section, Pipe Spring National Monument,” 1980 (draft).

Crampton, C. Gregory. “Mormon Colonization in Southern Utah and in Adjacent Parts of Arizona and Nevada, 1851-1900,” National Park Service, 1965.

Fox, Gregory L. “The Pipe Spring Archeological Survey: A Section 110 Planning Project, Pipe Spring National Monument, Mohave County, Arizona.” Tucson: Western Archeological and Conservation Center, National Park Service, 1994.

Heaton, C. Leonard. "Notes of C. Leonard Heaton on Pipe Spring National Monument." (Heaton Journal, 1928-1963), copy at Pipe Spring National Monument, Fredonia, Arizona.

Judd, Debra. “Pipe Spring as Political Refuge, 1885-1896.” Pipe Spring National Monument; draft, February 15, 2000.

LaMar W. Lindsay and Rex E. Madsen, “Report of Archeological Surveys of the Pipe Springs National Monument Water Supply System Project, Kaibab Indian Reservation, Mohave County, Arizona; Zion National Park Sewer Extension Project, Washington County, Utah; Arches National Park Road and Sewage Disposal Area Projects, Grand County, Utah; and Canyonlands National Park Road Projects, Needles and Grandview Point Areas, San Juan County, Utah.” Salt Lake City: University of Utah; July 15, 1973.

Nelson, Peggy Froeschauer and Kathleen L. McKoy. “Cultural Landscape Inventory, Pipe Spring National Monument,” August 1997.

Stoffle, Richard W., Diane E. Austin, David B. Halmo, Arthur M. Phillips III. "Ethnographic Overview and Assessment: Zion National Park, Utah and Pipe Spring National Monument, Arizona," Bureau of Applied Research in Anthropology, University of Arizona, Tucson, AZ and Southern Paiute Consortium, Pipe Spring, AZ. Draft, July, 1995.

Woodward, Arthur. "A Brief Historical Sketch of Pipe Springs, Arizona," June 1941.

Books

Arrington, Leonard J. *Great Basin Kingdom, An Economic History of the Latter-day Saints, 1830-1900*. Cambridge: Harvard University Press, 1958.

Bradley, Martha Sonntag. *Kidnapped From That Land - the Government Raids on the Short Creek Polygamists*. Salt Lake City: University of Utah Press, 1993.

Carter, Kate B. *Treasures of Pioneer History*. Salt Lake City, Daughters of Utah Pioneers, 1953.

_____. *Our Pioneer Heritage*. Salt Lake City: Daughters of Utah Pioneers, 1958.

Crampton, C. Gregory. *Land of Living Rock, The Grand Canyon and the High Plateaus: Arizona, Utah, Nevada*. New York: Alfred A. Knopf, 1972.

d'Azevedo, Warren L. ed. *Handbook of North American Indians* Washington, D.C.: Smithsonian Institution, 1986.

Jenson, Andrew. *Latter-day Saint Biographical Encyclopedia*. Salt Lake City: Andrew Jenson History Co., 1920.

_____. *Encyclopedic History of the Church of Jesus Christ of Latter-day Saints*. Salt Lake City, Deseret News Publishing Co., 1941.

Lavender, David. *The History of Arizona's Pipe Spring National Monument*. Springdale, Utah: Zion Natural History Association, 1984 (rev. 1998).

McClintock, James H. *Mormon Settlement in Arizona – A Record of Peaceful Conquest of the Desert*. Phoenix: The Manufacturing Stationers Inc., 1921.

Peterson, Charles S. *Utah, A History*. New York: W. W. Norton & Co., 1977.

Van Wagoner, Richard S. *Mormon Polygamy, A History*. Salt Lake City, Signature Books, 1989.

Journals

Crampton, C. Gregory, ed., "Military Reconnaissance in Southern Utah, 1866," *Utah Historical Quarterly*, Vol. 32, No. 2, Spring, 1964.

Knack, Martha C. "Interethnic Competition at Kaibab During the Early Twentieth Century," *Ethnohistory* 40:2, Spring 1993.

Lauritzen, Jonreed. "Pipe Spring, A Monument to the Pioneers," *Arizona Highways*, February 1943.

Olsen, Robert W. Jr. "Pipe Spring, Arizona and Thereabouts" *Journal of Arizona History*, Vol. 6, No. 1, Spring 1965.

_____."Conflict in the Arizona Strip: The First Skirmish of the 1865-1869 Mormon-Navaho War," *Pacific Coast Archaeological Society Quarterly*, Vol. 2, No. 1, January 1966.

Ransom, Jay Ellis, "Refuge at Pipe Spring," *Westways*, Vol. 45, No. 8, August 1953.

_____."Forgotten Refuge at Pipe Spring," *Trailer Travel Magazine*, November 1965.

Spendlove, Earl. "Pipe Spring – A Page from the Past," undated, no citation.

Stoffle, Richard W. and Michael J. Evans. *Kaibab Paiute History, The Early Years*, "Resource Competition and Population Change: A Kaibab Paiute Ethnohistorical Case," *Ethnohistory* Vol. 23:2, 1976.

Woodbury, Angus M., "A History of Southern Utah and Its National Parks" *Utah Historical Quarterly*, Vol. 12, July, October 1944.

Oral Interviews

Caywood, Janene, ed., *Oral History Collection, Pipe Spring National Monument, Vol. I*, Pipe Spring National Monument, 1996.

Lowe, Mary Jane, *Oral History Collection, Pipe Spring National Monument, Vol. II*, Pipe Spring National Monument ,1996.

McKoy, Kathleen L. *Oral History Collection, Pipe Spring National Monument, Vol. IV*, Pipe Spring National Monument, 2000.

Ruppert, David E. and Kathleen L. McKoy. *Oral History Collection, Pipe Spring National Monument, Vol. III*, Pipe Spring National Monument, 1999.

Additional Documentation

1. Three unnumbered maps: USGS map; Pipe Spring National Monument Historic District map and map detail.
2. Pipe Spring National Monument vicinity map, 1959, modified.
3. Historic American Buildings Survey drawings of fort and cabins, 1940 (unnumbered; 9).
4. Fort floor plans, first floor (a) and second floor (b).
5. Whitmore-McIntyre dugout, as it may have appeared in 1863.
6. Detail from USGS survey map, John Wesley Powell's expeditions of 1871, 1872, and 1873.
7. An ox dragged building stone on a "rock lizard" down the quarry trail.
8. The quarry trail followed along the cliff face to the fort's construction site.
9. Anson P. and Emeline Winsor, first occupants of "Winsor Castle."
10. Pipe Spring fort, April 27, 1891. The man wearing a white hat is Edwin D. Woolley, Jr. Plural wife Florence Snow Woolley is woman at the far left.
11. NPS Director Stephen T. Mather standing on wall of west cabin with the Heatons, Pipe Spring, September 7, 1923.
12. Pipe Spring fort, ca. 1925, showing window and door openings from Woolley period. These changes were reversed in 1959.
13. East cabin and corrals, ca. 1924, prior to restoration.
14. Copy of two color photos: fort and setting; west cabin interior (unnumbered page)

Photographs

The following information is the same for all original photos submitted with this nomination:

Name of property: Pipe Spring National Monument Historic District
County and State: Mohave County, Arizona
Name of photographer: Kathy McKoy, NPS Historian
Date of photographs: July 22 and 23, 2000
Location of negatives: Pipe Spring National Monument

No.	Description	Direction
1	Whitmore-McIntyre dugout site area	to NW
2	Whitmore-McIntyre dugout site area	to SE
3	east cabin, outhouse, chicken coop, east retaining walls	to N
4	east cabin, east elevation	to W
5	east retaining wall, mostly behind corral	to W
6	east cabin, south elevation	to N
7	east cabin, north elevation	to S
8	east cabin, south room	interior
9	east retaining wall, behind east cabin	to N
10	east retaining wall, showing gap in levels	to N
11	east retaining wall, behind corral`	to SW
12	east retaining wall, outhouse, fort	to NW
13	east retaining wall. outhouse, fort	to NW
14	outhouse, east retaining wall	to N
15	roof of east cabin, outhouse, corral complex	to E
16	fort, east & north elevation	to S
17	fort, east elevation, Ricky Yellowhorse at gate	to W
18	fort, east & south elevation	to NW
19	fort, south elevation	to N
20	fort, door on south elevation	to N
21	fort, west elevation	to E
22	fort, gun ports on west elevation	detail
23	fort, north elevation	to SE
24	north door, fort	detail
25	fort, upper building balcony	to NE
26	fort, upper building balcony	to W
27	fort, lower building balcony	to E
28	fort, lower building balcony	to SW
29	door to kitchen	detail
30	fort, upper building, kitchen (room no. 4)	interior

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

No.	Description	Direction
31	fort, upper building, kitchen, enclosed stairs/pantry	interior
32	fort , upper building, parlor (room no. 3)	interior
33	upper bldg., upstairs, room no. 8	interior
34	upper bldg., upstairs, room no. 9	interior
35	fort, lower bldg., upstairs, room no. 5	interior
36	fort, lower bldg., upstairs, room no. 6	interior
37	fort, lower bldg., upstairs, room no. 7	interior
38	fort, lower bldg., upstairs, room no. 7	interior
39	east pond	to E
40	concrete walk between ponds	to SE
41	west pond	to SE
42	fort with ponds in foreground	to N
43	east pond wall, south side	to E
44	west pond wall, west side	to S
45	west pond, north interior wall	to NE
46	fort, spring channel to pond	to NW
47	west retaining wall, by fort	to NW
48	orchards, south of fort	to SE
49	Jesse Robinson plowing vegetable garden, east of fort	to E
50	west cabin, east elevation	to W
51	west cabin, south elevation	to N
52	west cabin, west elevation	to E
53	west cabin, retaining wall	to W
54	west cabin, north & east elevation	to SW
55	west cabin, west room	interior
56	west cabin, east room	interior
57	lime kiln site	to E
58	quarry trail	to W